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_____ Other

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FILE 'REGISTRY' ENTERED AT 14:27:30 ON 29 OCT 2002
E RAFFINATE/CN 5

- key terms

FILE 'HCAPLUS' ENTERED AT 14:27:45 ON 29 OCT 2002
L1 4737 SEA FILE=HCAPLUS ABB=ON PLU=ON RAFFINATE
L2 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (CORYNEBACTER? OR BREVIBACTER? OR COLI OR BACILLUS)

L1 4737 SEA FILE=HCAPLUS ABB=ON PLU=ON RAFFINATE
L3 0 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (B30059 OR B30060 OR B30061 OR B30062 OR B30063 OR B(W)(30059 OR 30060 OR 30061 OR 30062 OR 30063))

L1 4737 SEA FILE=HCAPLUS ABB=ON PLU=ON RAFFINATE
L5 39 SEA FILE=REGISTRY ABB=ON PLU=ON (GLYCINE OR ALANINE OR METHIONINE OR PHENYLALANINE OR TRYPTOPHAN OR PROLINE OR SERINE OR THREONINE OR CYSTEINE OR TYROSINE OR ASPARAGINE OR GLUTAMINE OR ASPARTIC ACID OR GLUTAMIC ACID OR LYSINE OR ARGININE OR HISTIDINE OR ISOLEUCINE OR LEUCINE OR VALINE)/CN
L6 16 SEA FILE=HCAPLUS ABB=ON PLU=ON (L5 OR GLYCINE OR ALANINE OR METHIONINE OR PHENYLALANINE OR TRYPTOPHAN OR PROLINE OR SERINE OR THREONINE OR CYSTEINE OR TYROSINE OR ASPARAGINE OR GLUTAMINE OR ASPARTIC ACID OR GLUTAMIC ACID OR LYSINE OR ARGININE OR HISTIDINE OR ISOLEUCINE OR LEUCINE OR VALINE) AND L1
L7 272577 SEA FILE=HCAPLUS ABB=ON PLU=ON (GLY OR ALA OR MET OR PHE OR TRP OR PRO OR SER OR THR OR CYS OR TRYPTOPHANE OR TYR OR ASN OR GLN OR ASP OR LYS OR ARG OR GLU OR HIS OR LEU OR VAL OR ILE)
L8 31 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 AND L1
L9 39 SEA FILE=HCAPLUS ABB=ON PLU=ON (L6 OR L8) AND (PREP? OR PROD? OR MANUF?)

L19 44 L2 OR L9

L19 ANSWER 1 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:751648 HCAPLUS
DOCUMENT NUMBER: 137:254420
TITLE: Superpurex as a TBP-compatible process for recovery and partitioning of long-lived radionuclides from NPP spent fuel
AUTHOR(S): Zilberman, B. Ya.; Fedorov, Yu. S.; Mishin, E. N.; Sytnik, L. V.; Shmidt, O. V.; Kukharev, D. N.; Goletsky, N. D.; Glekov, R. G.; Palenik, Yu. V.; Sukhareva, S. Yu.
CORPORATE SOURCE: V.G. Khlopin Radium Institute, St. Petersburg, 194021, Russia
SOURCE: JAERI-Conf (2002), 2002-004(Proceedings of the International Symposium NUCEF 2001), 189-196
CODEN: JECNEC
PUBLISHER: Japan Atomic Energy Research Institute
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Partitioning of long-lived radionuclides (minor actinides and fission **products**) is considered within the frameworks of Superpurex process, where Modified Purex-process using 30% tri-Bu phosphate (TBP) as a solvent is combined with TBP-compatible ZEALEX-process for extn. and sepn. of TPE and REE, as well as some other elements, which are not extd. by 30% TBP. Zr salt of di-Bu phosphoric acid (ZS HDBP)dissolved in 30% TBP is used in the ZEALEX unit as a solvent. The both extn. systems are compatible. In the Modified Purex-process, U, Pu, Np, Tc and Zr are totally extd. and sepd. in 3 or 4 fractions. One or 2 of these fractions contain Np, Tc and Zr altogether or in a combination. Lanthanides, Y and TPE, as well as Mo and residual amts. of Np, Pu, U are extd. from high-level **raffinate** in 1st cycle of ZEALEX-process, TPE and REE being sepd. from the polyvalent elements by selective stripping. TPE/REE partitioning is achieved in the 2nd cycle of ZEALEX-process. Salt-free reducing and complexing agents are used at all the stages of the process, to allow minimizing waste vol. Superpurex process flowsheet can be designed also as applied to peculiarities of FBR reprocessing.

IT **56-40-6**, Aminoacetic acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(stripping agent; Superpurex as a TBP-compatible process for recovery and partitioning of long-lived radionuclides from NPP spent fuel)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:256479 HCAPLUS
DOCUMENT NUMBER: 136:278229
TITLE: Escherichia mutants expressing chromosome-inserted thrABC operon from non-native promoter and their use in **threonine production**
INVENTOR(S): Liaw, Hungming James; Bradshaw, Jill S.; Yang, Yueqin; Mao, Weiying
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026993	A1	20020404	WO 2001-US30558	20010928

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,

TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002106800	A1	20020808	US 2001-962303		20010926
AU 2001096415	A5	20020408	AU 2001-96415		20010928
PRIORITY APPLN. INFO.:			US 2000-235884P	P	20000928
			WO 2001-US30558	W	20010928

AB Escherichia **coli**, contg. a thrABC operon under control of a non-native promoter (such as tac) inserted into the chromosome, and the use of these E. **coli** strains for the fermentative **prodn.** of **threonine** are disclosed. Addnl., the thrA gene may encode a feedback-resistant aspartate kinase-homoserine dehydrogenase, or the E. **coli** may be mutated to resistance to **threonine raffinate**, borrelidin, or cyclopentanecarboxylic acid. One such recombinant E. **coli produced** 96.2 g L-**threonine**/L in fermentor culture (relative to the parent strain which **produced** 5.1 g/L).

IT **72-19-5P**, L-**Threonine, preparation**
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(escherichia mutants expressing chromosome-inserted thrABC operon from non-native promoter and their use in **threonine prodn.**)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:592528 HCAPLUS
DOCUMENT NUMBER: 135:232930
TITLE: Treatment of Fernald Silo 3 material to meet leaching requirements: evaluations of waste characteristics and waste forms
AUTHOR(S): Stine, Ernest F., Jr.
CORPORATE SOURCE: IT Corporation, Knoxville, TN, 37923, USA
SOURCE: Proceedings of the Air & Waste Management Association's Annual Conference & Exhibition, 93rd, Salt Lake City, UT, United States, June 18-22, 2000 (2000), 6884-6902. Air & Waste Management Association: Pittsburgh, Pa.
CODEN: 69BMLL
DOCUMENT TYPE: Conference; (computer optical disk)
LANGUAGE: English

AB IT Corporation (IT) successfully conducted treatability studies to develop stabilization formulas to treat the "cold metal oxide" low level radioactive waste from the Fernald Environmental Management Project (FEMP) Operable Unit 4 (OU4) Silo 3. The treated waste **met** the site and Nevada Test Site (NTS) waste acceptance criteria. IT also conducted studies to evaluate material handling characteristics of the untreated and treated wastes. FEMP is a federal facility that was used for the **prodn.** of purified uranium metal for the U.S. Department of Energy (DOE). The Silo 3 material is a dry, fine powder **produced** by calcination of **raffinate** from uranium extn. It contains approx. 40 percent by wt. of sol. salts, primarily calcium and sodium nitrates and sulfates. It leaches multiple metals above the RCRA regulatory limits, e.g., selenium, lead, and chromium. The leaching characteristics of the waste are similar to a time- released,

prilled material, i.e., there is an initial release of metals that are easily treated, then later, the structure changes and more metals are released. Three types of treated final waste forms were evaluated during the treatability testing program, fluid grouts, compacted high solids, and compacted soil-like. Fluid grout formulations were selected with approx. 50 wt. percent waste loading to control the metals leachability and the phys. parameters of the. treated material, while providing a process which is inherently safe with built in quality control assurances. IT's robust formulations were developed to effectively treat the waste materials from the 1998 sampling effort as well as the significantly different material investigated during the Remedial Investigation/Feasibility Study (RI/FS). Comparisons of the three waste forms, leaching characteristic, and impacts of phys. properties of the waste will be discussed in this paper.

L19 ANSWER 4 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:319554 HCAPLUS
DOCUMENT NUMBER: 134:325331
TITLE: Process for the **manufacture** of citric acid
INVENTOR(S): Troostembergh, Jean-Claude Marie-pierre Ghislain; Oudenne, Francois Catherine Marie Renee; Obyn, Willy Richard
PATENT ASSIGNEE(S): Cerestar Holding B.V., Neth.
SOURCE: Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1096020	A1	20010502	EP 2000-309382	20001025

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRIORITY APPLN. INFO.: GB 1999-25215 A 19991026
OTHER SOURCE(S): CASREACT 134:325331
AB The present invention discloses a process wherein the fermn. for **producing** citric acid is performed with a mutant strain of Aspergillus niger, which can grow in a mineral anion-free culture medium. Fermn. broth can be clarified by applying ultrafiltration for removal of proteineous material and polysaccharides. Subsequently the **raffinate** can be treated with cation exchange resin and eventually active carbon. The thus purified citric acid contg. syrup is concd. and citric acid is recovered in the form of citric acid monohydrate or anhyd. crystals by crystn. of the concd. citric acid contg. syrup.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 5 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:101294 HCAPLUS
DOCUMENT NUMBER: 134:144478
TITLE: **Preparation** and use of novel bacterial strains for the L-**lysine** fermentation

INVENTOR(S): Liaw, Hungming J.; Eddington, John M.; Yang, Yueqin; Dancey, Richard; Swisher, Stacia; Mao, Weiying
PATENT ASSIGNEE(S): Archer-Daniels-Midland Company, USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001009306	A2	20010208	WO 2000-US20899	20000801
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1198564	A2	20020424	EP 2000-952348	20000801
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
BR 2000012966	A	20020514	BR 2000-12966	20000801

PRIORITY APPLN. INFO.: US 1999-146350P P 19990802
WO 2000-US20899 W 20000801

AB The invention provides novel microorganisms, **prodn.** methods and processes for the **prodn.** of amino acids which are based on the incorporation of amino acid **raffinate** into the fermn. medium. Amino acid **raffinate** refers to a waste stream generated from the ion exchange operation in L-**lysine** recovery. **Raffinate** contains a large portion of ammonium sulfate , L-**lysine**, salts and carbohydrates. Incorporation of **raffinate** into a fermn. medium is com. beneficial because it lowers the ingredient costs. When a fermn. medium that contains this **raffinate** is heat sterilized, amino acid derivs. and other compds. that inhibit microbial growth are generated. Mutagenesis of parental bacterial strains and selection of an improved **raffinate**-resistant phenotype enables the isolation of strains with enhanced growth properties that **produce** larger amts. of amino acid on **raffinate** contg. media. Microorganisms of the invention are **produced** from amino acid **producing** parental strains such as **Corynebacterium** or **Brevibacterium** , particularly preferred are parental strains that **produce** L-**lysine**.

IT **56-41-7P**, L-**Alanine**, biological studies
56-87-1P, L-**Lysine**, biological studies
72-18-4P, L-**Valine**, biological studies
RL: BMF (Bioindustrial manufacture); BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process)
(**prepn**. and use of novel bacterial strains for the L-

lysine fermn.)

IT **52-90-4P**, L-**Cysteine**, biological studies
56-40-6P, **Glycine**, biological studies
56-45-1P, L-**Serine**, biological studies
56-84-8P, L-**Aspartic acid**, biological studies **56-85-9P**, L-**Glutamine**, biological studies **56-86-0P**, L-**Glutamic acid**, biological studies **60-18-4P**, L-**Tyrosine**, biological studies **61-90-5P**, L-**Leucine**, biological studies **63-68-3P**, L-**Methionine**, biological studies **63-91-2P**, L-**Phenylalanine**, biological studies **70-47-3P**, L-**Asparagine**, biological studies **71-00-1P**, L-**Histidine**, biological studies **72-19-5P**, L-**Threonine**, biological studies **73-22-3P**, L-**Tryptophan**, biological studies **73-32-5P**, L-**Isoleucine**, biological studies **74-79-3P**, L-**Arginine**, biological studies **147-85-3P**, L-**Proline**, biological studies
RL: BMF (Bioindustrial manufacture); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(**prepn.** and use of novel bacterial strains for the L-**lysine** fermn.)

L19 ANSWER 6 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:56345 HCAPLUS
DOCUMENT NUMBER: 134:240396
TITLE: Recovery of zinc and cadmium from lead smelter furnace dusts at **Met**-Mex Penoles by a solvent extraction process
AUTHOR(S): Del Rio, I. Sofia Fernandez
CORPORATE SOURCE: Met-Mex Penoles S.A. de C.V., Coahuila, 27370, Mex.
SOURCE: Lead-Zinc 2000, Proceedings of the Lead-Zinc 2000 Symposium, Pittsburgh, PA, United States, Oct. 22-25, 2000 (2000), 677-686. Editor(s): Dutrizac, John E. Minerals, Metals & Materials Society: Warrendale, Pa.
CODEN: 69AVOC
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A process for treatment of the dusts generated during the operation of blast and reverberatory furnaces in the lead smelter to remove zinc, cadmium, arsenic and halides from the circuit is described. The process consists of a leaching/purifn. stage and solvent extn. process. The plant capacity is 5000 ton Zn/yr. The feed to solvent extn. contains 8 g/L Zn. Impurities such as copper, iron, arsenic and cadmium are removed by conventional cementation processes. The cadmium **product** is 99.99 %. The solvent extn. process consists of two extn. stages, one rinsing stage and two stripping stages. D2EHPA is used as the extn. agent and 25% ammonia as the neutralizer. The zinc-rich soln. is sent to the electrolytic zinc plant for zinc recovery. The **raffinate produced** , which is a mixt. of ammonium sulfate and chloride, is used for agricultural applications.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 7 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:730814 HCAPLUS
DOCUMENT NUMBER: 133:311549
TITLE: New technology of reformate and reformate **raffinate** hydrorefining for solvent naphtha
AUTHOR(S): Zhu, Dizhu
CORPORATE SOURCE: SINOPEC Beijing Design Institute, Beijing, 100011, Peop. Rep. China
SOURCE: Shiyou Lianzhi Yu Huagong (2000), 31(9), 20-23
CODEN: SLYHEE; ISSN: 1005-2399
PUBLISHER: Shiyou Lianzhi Yu Huagong Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The application of reformate **raffinate** hydrorefining in Shijiazhuang Refinery showed that using MH-705 catalyst, at a temp. of 180 .degree.C, a 6 # and 120 # solvent naphtha were **produced**. The application of reformate hydrorefining in Maoming Petrochem. Company showed that using MH-508 catalyst, a **product met** the specification of 6 # solvent naphtha was obtained, its bromine no. was in the range of 0-0.05 gBr/100 g. The said hydrorefining technol. has been used in 8 units and exhibited good economic effect.

L19 ANSWER 8 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:666556 HCAPLUS
DOCUMENT NUMBER: 133:221909
TITLE: Method for treating and processing lupine seeds containing alkaloid, oil and protein
INVENTOR(S): Holley, Wolfgang; Muller, Klaus; Kamal, Hisham; Wasche, Andreas; Borcherding, Axel; Luck, Thomas
PATENT ASSIGNEE(S): Fraunhofer Gesellschaft zur Forderung der Angewandten Forschung e.V., Germany
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000054608	A1	20000921	WO 2000-EP2069	20000309
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19912037	A1	20020620	DE 1999-19912037	19990317
EP 1158871	A1	20011205	EP 2000-925107	20000309
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: DE 1999-19912037 A 19990317

DE 1999-19912045 A 19990318
WO 2000-EP2069 W 20000309

AB The invention relates to a method for treating and processing lupine seeds contg. alkaloid, oil and protein in order to ext. **products** from the lupine seeds using targeted fractionation, whereby the comminuted lupine seed is deoiled by introducing a solvent and, by adding acid, the alkaloids are removed. The invention is characterized in that the lupine seeds are comminuted into small discoid flakes and/or shaped in such a way that the comminution of the plant seeds is carried out after the decorticated or nondecorticated seed has been subjected to a precrushing using a cooled flocculating roller. In addn., the lupine seeds are heated by the indirect input of heat which ensues, to a large extent, without the use of water. After deoiling, the removal of substances, preferably alkaloids, which are sol. in the acid is effected by an aq. extn., whereby an alkaloid-reduced **raffinate** and an aq. ext. are obtained.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 9 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:408137 HCAPLUS
DOCUMENT NUMBER: 131:104330
TITLE: Recovery of dimethylnaphthalene isomers from light cycle oil by O/W/O emulsion liquid membrane process
AUTHOR(S): Putrawan, I. Dewa Gede Arsa; Oshima, Shunji; Habaki, Hiroaki; Egashira, Ryuichi; Kawasaki, Junjiro
CORPORATE SOURCE: Dep. Chemical Eng., Faculty Eng., Tokyo Institute Technology, Meguro-ku, Tokyo, 152-8552, Japan
SOURCE: Sekiyu Gakkaishi (1999), 42(3), 136-144
CODEN: SKGSAE; ISSN: 0582-4664
PUBLISHER: Sekiyu Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This paper simulates a process for recovering dimethylnaphthalene isomers (DMN) from light cycle oil (LCO), a byproduct in cracked gasoline **manuf.** The process involves a multistage emulsion liq. membrane permeator for sepg. aroms. from paraffins in LCO and four distn. towers of which two towers are used to recover solvent from **raffinate** and permeate and the others are used to sep. DMN from other aroms. in permeate. Stirred vessels are employed as contactors. Prior to the simulation, a series of continuous expts. on emulsion liq. membrane permeation were conducted to collect permeation coeff. data. The permeation coeff. data obtained was thereafter used to develop an empirical correlation needed for the simulation. During the simulation, the effects of permeator variables on the energy demands of the distn. towers and on the yield of DMN were investigated at a fixed DMN concn. in the **product.** The permeator variables studied included solvent-to-feed ratio, stirring rate, no. of stages, permeator reflux ratio, and stage vol., as well as the kinds of solvents. DMN yield increased with stirring rate, no. of stages, and stage vol., decreasing with permeator reflux ratio, and not affected significantly with solvent-to-feed ratio. The lighter the

solvent, the lower were the energy demand and DMN yield. In the conditions of the study, about 80% of DMN in LCO could be recovered. Most of the energy consumed was used to recover the solvent. A quick anal. showed that the energy demands might be **met** by utilizing the **raffinate** obtained.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 10 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:591681 HCAPLUS
DOCUMENT NUMBER: 129:299747
TITLE: Design of simulated moving bed (SMB) chromatography for amino acid separations
AUTHOR(S): Wu, D.-J.; Xie, Y.; Ma, Z.; Wang, N.-H. L.
CORPORATE SOURCE: School of Chemical Engineering, Purdue University, West Lafayette, IN, 47907-1283, USA
SOURCE: Industrial & Engineering Chemistry Research (1998), 37(10), 4023-4035
CODEN: IECRED; ISSN: 0888-5885
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A systematic design method was used to develop a pilot-scale SMB process for the fractionation of 2 amino acids, **tryptophan** and **phenylalanine**. In this method, isotherms were estd. by using frontal chromatog. and batch equil. methods, and mass-transfer parameters were estd. by using frontal chromatog. data. SMB expts. were then conducted by using the zone flow rates and port velocity calcd. from a theor. anal. without considering mass-transfer effects (an equil. design). The estd. parameters were validated with computer simulation and SMB data based on the equil. design. A design considering mass-transfer effects (a nonequil. design) was then obtained from the standing wave anal. and tested exptl. The effluent histories at the ext., **raffinate**, and sampling ports agreed with those from computer simulations. A sensitivity anal. shows that accurate isotherms, intraparticle diffusivities, and bed voidage are important for the SMB design, and the nonequil. design is more robust than the equil. design. Various column configurations were compared in terms of throughput and desorbent consumption.

IT **73-22-3P, Tryptophan, preparation**
RL: PUR (Purification or recovery); PREP (Preparation)
(design of simulated moving bed chromatog. for sepn. of **phenylalanine** and)

IT **63-91-2P, Phenylalanine, preparation**
RL: PUR (Purification or recovery); PREP (Preparation)
(design of simulated moving bed chromatog. for sepn. of **tryptophan** and)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 11 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:321880 HCAPLUS
DOCUMENT NUMBER: 128:308726
TITLE: Separation of ethylene glycol and sodium salt of **serine** by use of a simulated moving-bed

adsorber
AUTHOR(S): Seto, Takatoshi; Hirata, Kentaro; Odagiri, Masaki; Imanari, Makoto
CORPORATE SOURCE: Tsukuba Research Center, Mitsubishi Chem. Corp., Amimachi, 300-0332, Japan
SOURCE: Kagaku Kogaku Ronbunshu (1998), 24(3), 402-406
CODEN: KKRBAW; ISSN: 0386-216X
PUBLISHER: Kagaku Kogakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The sepn. of ethylene glycol and sodium salt of **serine** were successfully carried out using a simulated moving-bed four-zone type adsorber which was composed of a sodium salt of strongly acidic cation exchange resin. The moving-bed adsorber used was slightly different from a conventional one in the manner of setting up **Raffinate** 2. Sepn. of this type was simulated by calcns. using an anal. soln. of steady state rate equation concerning the adsorption and desorption of the ingredients and the moving bed. The condition needed for sepn. in the four-zone type with **Raffinate** 2 was discriminated, being generally coincident with the conventional condition of .beta. value.

L19 ANSWER 12 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:681626 HCAPLUS
DOCUMENT NUMBER: 127:294904
TITLE: Removal of pesticides from wool wax by continuous countercurrent dual-solvent extraction
AUTHOR(S): Jones, F. William
CORPORATE SOURCE: CSIRO, Division of Wool Technology, Belmont, 3216, Australia
SOURCE: Journal of the American Oil Chemists' Society (1997), 74(10), 1247-1253
CODEN: JAOCA7; ISSN: 0003-021X
PUBLISHER: AOCS Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Pesticide residues in raw wool wax were removed to below detectable levels by continuous countercurrent extn. with hexane/DMF in a pilot-scale mixer-settler contactor. The disengagement of the phases in the settling compartments was promoted by the addn. of a small amt. of HCO2H to the DMF-rich feed. Empirical equations were developed to predict the effect on the pesticide partition coeffs. of the wool wax concn., the presence of small amts. of H2O, EtOH and/or i-PrOH in the solvents, and the temp. used in the contactor. These empirical equations were included in equations that describe the concn. of the pesticides in the different stages of the contactor and were used to develop a spreadsheet model that accurately predicted the mixer-settler performance. The **raffinate** wool wax **produced** by this process after conventional neutralization **met** all BP and USP specifications for pharmaceutical lanolin.

L19 ANSWER 13 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:258919 HCAPLUS
DOCUMENT NUMBER: 126:279233
TITLE: The behavior of amino acids in chromatographic molasses desugarization systems

AUTHOR(S): Rearick, D. Eugene; McKay, Cheri
CORPORATE SOURCE: Amalgamated Research Inc., ID, USA
SOURCE: Proceedings of the Sugar Processing Research Conference (1996) 481-491
CODEN: PSPCE4; ISSN: 0730-6490
PUBLISHER: Sugar Processing Research Institute
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Free amino acids in sugar beet molasses demonstrate a variety of sepn. characteristics during desugarization by ion-exclusion chromatog. Several amino acids are easily removed with **raffinate**, whereas others behave more like sucrose and elute in the **product** fraction. Several amino acids accumulate within simulated moving bed desugarization systems. The relationship between amino acid sepn. characteristics and ionic properties is discussed.

IT **56-40-6**, **Glycine**, properties **56-41-7**, **Alanine**, properties **56-45-1**, **Serine**, properties **56-84-8**, **Aspartic acid**, properties **56-86-0**, L-**Glutamic acid**, properties **56-87-1**, **Lysine**, properties **60-18-4**, **Tyrosine**, properties **61-90-5**, **Leucine**, properties **63-91-2**, **Phenylalanine**, properties **70-47-3**, **Asparagine**, properties **72-18-4**, **Valine**, properties **72-19-5**, **Threonine**, properties **73-32-5**, **Isoleucine**, properties **147-85-3**, **Proline**, properties
RL: PRP (Properties)
(amino acid behavior in molasses chromatog. desugarization systems)

L19 ANSWER 14 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:225199 HCAPLUS
DOCUMENT NUMBER: 124:297795
TITLE: Nanofiltration for removal of surplus water in dump leaching
AUTHOR(S): Eriksson, Peter K.; Lien, Larry A.; Green, Dennis H.
CORPORATE SOURCE: Membrane Development Specialists, Escondido, CA, USA
SOURCE: Tailings and Mine Waste '96, Proceedings of the International Conference on Tailings and Mine Waste, 3rd, Fort Collins, Colo., Jan. 16-19, 1996 (1996), 451-7. Balkema: Rotterdam, Neth.
CODEN: 62PQA9
DOCUMENT TYPE: Conference
LANGUAGE: English

AB At a mining site in the USA, dump leaching is used to recover copper. The acid leach soln. percolates through the dump, dissolving copper and other metals, and is collected in a collection pond. Its copper concn. at this stage is about 0.8 g/l. This pregnant leach soln. goes to a copper extn. plant and is then returned (now called the **raffinate**) to the dump for further copper recovery. Water added and removed from the system is mainly from pptn. and natural evapn. resp. The pptn. rate exceeds the evapn. rate. Thus, water has to be purged from the system. The water streams in the system contain higher levels of metals than permitted by the discharge regulations. Presently, a part of the

raffinate goes through a chem. pptn. system prior to being purged. The cost of this is high. The main cost contributors are sludge disposal, pptn. chems., and labor. Nanofiltration followed by a biomass adsorption unit **produces** a high quality water which meets the discharge regulations. This water can even be recycled as fresh water, for applications where a high silica concn. is tolerated. An addnl. benefit with nanofiltration is that the metals are concd. The copper concn. in the pregnant leach soln. is increased in the nanofiltration unit, which increases the extn. capacity of an existing copper extn. plant. This paper presents the results from a pilot plant study which started at a copper mine in Nov. 1994. Nanofiltration followed by a biomass adsorption unit **produced** water from the pregnant leach soln. which **met** the discharge regulations.

L19 ANSWER 15 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:148952 HCAPLUS
DOCUMENT NUMBER: 124:230031
TITLE: Selective recovery of two enzymes from **Bacillus** subtilis using Aliquat 336 reversed micelles
AUTHOR(S): Chang, Qing-Long; Chen, Jia-Yong
CORPORATE SOURCE: Inst. Chem. Metallurgy, Chinese Acad. Sci., Beijing, 100080, Peop. Rep. China
SOURCE: Applied Biochemistry and Biotechnology (1996), 56(2), 197-204
CODEN: ABIBDL; ISSN: 0273-2289
PUBLISHER: Humana
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Selective sepn. and purifn. of two enzymes from **Bacillus** subtilis (.alpha.-amylase and neutral protease) by liq.-liq. extn. using Aliquat 336/isooctane reversed micelles were investigated. After a full forward and backward extn. cycle, .alpha.-amylase was sepd. and purified in the stripping soln., and neutral protease was recovered in the **raffinate**.

L19 ANSWER 16 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:981491 HCAPLUS
DOCUMENT NUMBER: 124:33322
TITLE: **Production** of transformer oil by refining of distillate using a two-column extraction scheme
AUTHOR(S): Kuliev, R. Sh.; Kuliev, F. A.; Tarasova, T. M.; Mutalibova, A. A.
CORPORATE SOURCE: INKhP, Azerbaijan
SOURCE: Azerbaidzhanskoe Neftyanoe Khozyaistvo (1995), (5-6), 67-71
CODEN: AZNKAY; ISSN: 0365-8554
PUBLISHER: Azerbaidzhanskoe Neftyanoe Khozyaistvo
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Possibility of use of two-column extn. scheme for refining of transformer oil distillate was studied. Extn. is carried out in two extn. columns with countercurrent flows: refining of raw material in the first column is carried out with the use of ext. soln. from the second column; in the second column, refining of **raffinate** from the first column is done with the use of fresh solvent.

Furfural and phenol were used as solvents. High efficiency of the two-column scheme was demonstrated. It was possible to reduce consumption of selective solvent by 30-33% and to increase output of **raffinate** by 1.6-3.0% compared to one-column scheme. The transformer oil **met** the required std.

L19 ANSWER 17 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:975971 HCAPLUS
DOCUMENT NUMBER: 124:49008
TITLE: Separation and purification of two enzymes from **Bacillus** subtilis using Aliquat 336 reversed micelles: study of the effect of cosolvent concentration
AUTHOR(S): Chang, Qing-Long; Chen, Jia-Yong
CORPORATE SOURCE: Institute of Chemical Metallurgy, Chinese Academy of Sciences, P.O. Box 353, Beijing, 10080, Peop. Rep. China
SOURCE: Chemical Engineering Journal (Lausanne) (1995), 59(3), 303-8
CODEN: CMEJAJ; ISSN: 0300-9467
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two kinds of alkyl alc. (n-butanol and n-octanol) at concns. ranging from 0.4% to 2.0% (vol./vol.) were chosen as the cosolvent for Aliquat 336/isooctane reversed micelles. By performing liq.-liq. extn. with Aliquat 336 reversed micelles, sepn. and purifn. of two enzymes (.alpha.-amylase and neutral protease) from **Bacillus** subtilis were investigated. It was found that at higher cosolvent concn. (above 0.4% vol./vol.), n-butanol may be a suitable cosolvent for Aliquat 336 reversed micelles. Under this condition, about 90% of the total activity of .alpha.-amylase in the crude enzyme prepn. can be recovered in the stripping soln. after one extn. cycle and the enzyme can be purified about 1.4-fold; meanwhile about 70% of the total activity of neutral protease in the crude enzyme prepn. is retrieved into the **raffinate** with about 4.5-fold purifn. At the lower cosolvent concn. range (below 0.4% vol./vol.), however, n-octanol is the better choice. Under this condition, about 85% of the total activity of .alpha.-amylase can be recovered into the stripping soln. and purified by 1.3-fold; meanwhile about 75% of the total activity of neutral protease is transferred into the **raffinate** with the enzyme purified by 4.0-fold.

L19 ANSWER 18 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:720607 HCAPLUS
DOCUMENT NUMBER: 123:110189
TITLE: Effect of the type of cosolvent on the extraction process for separation and purification of two enzymes from **Bacillus** subtilis using Aliquat 336 reversed micelles
AUTHOR(S): Chang, Qing-Long; Chen, Jia-Yong
CORPORATE SOURCE: Inst. Chem. Metallurgy, Chinese Acad. Sci., Beijing, 100080, Peop. Rep. China
SOURCE: Separation Science and Technology (1995), 30(13), 2679-93
CODEN: SSTEDS; ISSN: 0149-6395
PUBLISHER: Dekker

DOCUMENT TYPE: Journal
LANGUAGE: English
AB Seven kinds of alkyl alc. (n-BuOH, n-pentanol, n-hexanol, n-heptanol, n-octanol, n-nonanol, and n-decanol) were chosen as the cosolvent for Aliquat 336/isooctane reversed micelles. By performing liq.-liq. extn. with Aliquat 336 reversed micelles as the extractant, the sepn. and purifn. of 2 enzymes (.alpha.-amylase and neutral protease) from B. subtilis were investigated. When n-BuOH was used as the cosolvent, the 2 enzymes from B. subtilis can be effectively sepd. and purified after a full forward and backward extn. cycle. .alpha.-Amylase was sepd. in the stripping soln. with .apprx.85% of its total activity recovered and purified .apprx.1.6-fold. Neutral protease was sepd. in the **raffinate** with .apprx.80% of its total activity recovered and purified .apprx.3.5-fold. For the other 6 alcs. used as the cosolvent for Aliquat 336/isooctane reversed micelles, sepn. was not achieved.

L19 ANSWER 19 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:332054 HCAPLUS
DOCUMENT NUMBER: 122:110309
TITLE: Study on n-butene isomerization process
AUTHOR(S): Yang, Hung-Ming; Lin, Chih-Cheng; Chang, Chien-Hung
CORPORATE SOURCE: Refin. Manufact. Res. Cent., Chinese Petroleum Corp., Chiayi, 60036, Taiwan
SOURCE: Shiyou Jikan (1994), 30(4), 3-12
CODEN: SYCKE4; ISSN: 1022-9671
PUBLISHER: Chinese Petroleum Institute
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The purpose of this study is to investigate the skeletal isomerization to convert n-butenes into isobutylene which is one of the feedstocks for **manufg**. Me tert-Bu ether (MTBE), an important blending additive with high octane value for unleaded gasoline, the demand of which will grow drastically during this decade. The olefin isomerization catalyst developed in this study can effectively convert n-butenes into isobutylene at near thermodn. equil. conditions. The bench, pilot unit and a demonstrative pilot plant were set up to test the process using com. **raffinate** -2 as the feed. The optimal operating condition as well as catalyst cycle life was investigated in pilot unit. The decayed catalyst can be regenerated to recover its initial activity via decoking. Moreover, the **product** stream contg. 40-45wt% of isobutylene can be **produced** in the demonstrative pilot plant and have **met** the feed specification of a MTBE plant. This study has the potential of process commercialization.

L19 ANSWER 20 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:520195 HCAPLUS
DOCUMENT NUMBER: 117:120195
TITLE: Progress in the development of a one-cycle Purex process (Impurex)
AUTHOR(S): Petrich, G.; Bleyl, H. J.; Ertel, D.; Galla, U.; Goldacker, H.; Roemer, J.; Schmieder, H.; Schoen, J.
CORPORATE SOURCE: Inst. Heisse Chem., Kernforschungszent. Karlsruhe, Karlsruhe, D7500, Germany

SOURCE: Process Metallurgy (1992), 7A(Solvent Extr. 1990, Pt. A), 555-60
CODEN: PMETEQ
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This paper presents the latest exptl. results on the development of an IMproved Purex process (IMPUREX) for the reprocessing of spent nuclear fuel. The new process allows one to reach the **product** specifications required for the com. process in 1 single extn. cycle instead of the traditionally employed 5 cycles. Waste and equipment minimization increase availability and reduce costs. In 2 series of expts. in the highly shielded lab.-scale MILLI reprocessing facility, true (i.e. not partially simulated) fuel of 31.5 and 170 GW-days/metricton resp. was reprocessed. The feed soln. was first filtered and then clarified in an adsorption bed. The ultra-high loading of the solvent over almost all of the first extractor HA has to be considered as an inherent fission **product** scrubber and explains the obsd. excellent decontamination values. For addnl. Np decontamination, an electroreductive first scrubber HS1 is proposed. The IMPUREX process requires an efficient process control to keep the position of the U-extn. front at a const. location close to the **raffinate** discharge of HA. As a controlling condition the temp. profile was employed. This works even in the very small mixer-settlers of MILLI with the assocd. noisy temp. signals. A 2-fold feed clarification by a sintered metal filter and a diatomaceous earth adsorption bed resulted in processes without any hydraulic maloperations or interfacial deposits. The IMPUREX flowsheet reliably avoids Pu(IV) accumulations and assocd. criticality problems. Pu(VI) has to be reduced to Pu(IV) in the feed soln. The influence of the position of the U-extn. front in the first extractor on the decontamination factors of Cs, Ce, Ru, Zr, Tc, and Np is discussed. The MILLI results show that **product** requirements for reprocessing can be **met** in 1 extn. cycle as predicted theor. For occasionally occurring maloperations in industrial operation, further **product** refinement by crystn. is proposed.

L19 ANSWER 21 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:656645 HCAPLUS
DOCUMENT NUMBER: 115:256645
TITLE: Separation of L-**tryptophan** by nonpolar porous resin
INVENTOR(S): Yamamoto, Shigetomo; Odagiri, Masaki
PATENT ASSIGNEE(S): Technology Research Assoc. for New Application Development for Light-Weight Fractions, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03200766	A2	19910902	JP 1989-338199	19891228

AB L-**Tryptophan** (I) is sepd. in high yield from a reaction soln. contg. I, indole (II), and other impurities obtained by

enzymic reaction of indole, by (1) passing the reaction soln. to the first column packed with a nonpolar porous resin to adsorb virtually all II on the resin, (2) passing the **raffinate** contg. virtually no II obtained from the first column to the second column packed with a nonpolar porous resin to adsorb I on the resin, (3) eluting the second column with an aq. alkali soln. to sep. I, and (4) eluting the first column with an org. solvent to sep. II. Thus, a reaction soln. obtained by condensation of II with DL-**serine** (III) was filtered through a polyacrylonitrile ultrafiltration membrane (differential mol. wt. 13,000) to give a clear soln. contg. I 10, II 0.1, III 10g/L which was passed through the first and the second column packed with 500 mL and 10L Diaron HP-2 (Mitsubishi Chem. Industries Ltd.), resp., at SV = 3. The second column was eluted with 15L 2 N aq. NH3 followed by 10L H2O to give 25L eluate contg. 195g I which was concd., crystd., and dried to give 165g I of 99.6% purity contg. .ltoreq.5 ppm II. After repeating the above procedures 25 times, H2O was passed to the first column, followed by 5L 50% aq. Me2CHOH and H2O to give an aq. Me2CHOH contg. 96% II.

IT **302-84-1**, DL-**Serine**
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, enzymic, with indole)

IT **73-22-3P**, L-**Tryptophan**, **preparation**
RL: PREP (Preparation)
(sepn. of, by nonpolar porous resin, from enzymic reaction soln.)

L19 ANSWER 22 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:404649 HCAPLUS
DOCUMENT NUMBER: 113:4649
TITLE: Process for separating **phenylalanine** from salts
INVENTOR(S): Goodman, Walter H.
PATENT ASSIGNEE(S): UOP Inc., USA
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4910336	A	19900320	US 1988-275853	19881125

AB **Phenylalanine** is recovered from a fermn. broth feed contg. **phenylalanine** and salts by liq. phase adsorptive sepn. The feed is contacted with a Y zeolite adsorbent, exchanged with Na+, K+, or Ca2+ to selectively adsorb the **phenylalanine** onto said adsorbent to the substantial exclusion of the other feed components. **Phenylalanine** is recovered by desorbing with water. Phosphate salts can be recovered in the **raffinate** in the adsorption process by recovered in the **raffinate** in the adsorption process by washing the absorbent with acetic acid prior to use.

IT **63-91-2P**, **Phenylalanine**, **preparation**
RL: PUR (Purification or recovery); PREP (Preparation)
(purifn. of, from fermn. medium)

L19 ANSWER 23 OF 44 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1990:182226 HCAPLUS
DOCUMENT NUMBER: 112:182226
TITLE: Separation in pseudo-moving bed apparatus
INVENTOR(S): Hirata, Kentaro; Fukui, Yoshio
PATENT ASSIGNEE(S): Mitsubishi Petrochemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01085106	A2	19890330	JP 1987-239847	19870924
US 4923616	A	19900508	US 1988-248083	19880923
PRIORITY APPLN. INFO.:			JP 1987-239847	19870924
			JP 1987-290541	19871119

AB In a 3-section pseudo-moving bed sepn. app., each section contains several beds connected to each other. Each bed contains a selective adsorbent for a sp. component. Cut-off means are provided between the beds. In any operating period, the connections from 1st to 2nd and 2nd to 3rd sections are interrupted by the cut-off means. A **raffinate** contg. small amt. of sp. component is discharged from the system via the outlet of the last bed of the 1st section. An eluant is fed to the foremost bed of the 2nd section and a **product** soln. contg. large amt. of the sp. component is discharged from the system via the outlet of the last bed. Solvents with high eluting power can be used in the app. and highly concd. **product** soln. can be recovered. It is used for the recovery of a sp. amino acid in high concn. from an amino acid mixt.

IT **73-22-3P**, L-**Tryptophan**, **preparation**
RL: PREP (Preparation)
(sepn. of, from aq. mixt. contg. D,L-**serine**, in pseudo-moving bed)

IT **302-84-1**, DL-**Serine**
RL: PROC (Process)
(sepn. of, from aq. mixt. contg. L-**tryptophan**, in pseudo-moving bed)

L19 ANSWER 24 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:459977 HCAPLUS
DOCUMENT NUMBER: 111:59977
TITLE: Recovery of chiral epoxy alcohol in asymmetric epoxidation
INVENTOR(S): Shum, Wilfred Po Sum
PATENT ASSIGNEE(S): Arco Chemical Co., USA
SOURCE: Eur. Pat. Appl., 3 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 308188	A2	19890322	EP 1988-308468	19880914
EP 308188	A3	19900425		

EP 308188 B1 19960508
R: BE, DE, ES, FR, GB, IT, NL
JP 01075478 A2 19890322 JP 1988-185321 19880725
ES 2086299 T3 19960701 ES 1988-308468 19880914
PRIORITY APPLN. INFO.: US 1987-95736 19870914
OTHER SOURCE(S): MARPAT 111:59977
AB The process which shortens process time and eliminates the use of expensive chems. for untreated hydroperoxide removal involves an aq. extn. of the reaction **raffinate** resulted from metal-catalyzed asym. epoxidn. of an allylic alc. and an org. hydroperoxide in an org. solvent. Thus, epoxidn. of allyl alc. using Ti(iso-**PrO**)4/(+)-diisopropyl tartrate catalyst and cumene hydroperoxide (I) in CH2Cl2 contg. mol. sieves at -15.degree. for 16 h gave 65% glycidol (II). The mol. sieves were filtered off and 400 g of this soln. contg. 22 g II was extd. twice with 100 mL H2O to yield 16.6 g combined II having low content of I, which after distn. gave 99% pure II with 88% enantiomeric excess.

L19 ANSWER 25 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:115550 HCAPLUS
DOCUMENT NUMBER: 108:115550
TITLE: Dewaxing of lubricating base oils
PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij B. V., USA
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62190286	A2	19870820	JP 1986-299087	19861217
CA 1282363	A1	19910402	CA 1986-523708	19861125
IN 168775	A	19910601	IN 1986-MA906	19861125
EP 237655	A1	19870923	EP 1986-202162	19861203
EP 237655	B1	19920603		
R: BE, DE, ES, FR, GB, IT, NL, SE				
ES 2031820	T3	19930101	ES 1986-202162	19861203
AU 8666639	A1	19870625	AU 1986-66639	19861217
AU 592137	B2	19900104		
BR 8606234	A	19870929	BR 1986-6234	19861217
CN 86108258	A	19871028	CN 1986-108258	19861217
CN 1016249	B	19920415		

PRIORITY APPLN. INFO.: US 1985-813214 19851224
AB Lubricating base oils are **manufd.** by sep. hydrodewaxing of .gtoreq.2 feedstocks including (a) a light distillate having viscosity index (VI) 80-150 and contg. .ltoreq.55 wt.% branched- and ring-type hydrocarbons, (b) a middle distillate having VI 250-300 and contg. .gtoreq.55 wt.% branched- and ring-type hydrocarbons, (c) a heavy distillate having VI 500-600, and (d) a bright stock waxy **raffinate**. Hydrodewaxing is preferably carried out at 150-500.degree., 2-200 **Val**, and 350-2670 L H/L of feed oil. The 1st feedstock is preferably contacted with a 1st hydrodwaxing catalyst contg. a synthetic ferrierite-type zeolite loaded with .gtoreq.1 active metal components from Group VIB (6), VIIB (7), and VIII (8-10). The 2nd feedstock is preferably

contacted with a 2nd hydrodewaxing catalyst having a pore diam. of 0.5-0.9 nm and contg. a cryst. aluminosilicate zeolite having a (0.9 .+-. 0.2):1:(5-10):(0-40) mol ratio of M2nO/Al2O3/SiO2/H2O (M is a cation; n is the cation valence). Each feedstock hydrodewaxing catalyst can be independently regenerated by contacting with O-contg. gas at 371-566.degree.. The resulting hydrodewaxed base oils have a lower pour point, and the service life of the hydrodewaxing catalysts can be significantly extended.

L19 ANSWER 26 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:517747 HCAPLUS
DOCUMENT NUMBER: 107:117747
TITLE: Liquid separation by moving-bed adsorption
INVENTOR(S): Hashimoto, Kenji; Adachi, Shuji; Horie, Masaharu
PATENT ASSIGNEE(S): Japan Organo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62091205	A2	19870425	JP 1985-228806	19851016

AB A process for sepg. a soln. contg. .gtoreq.2 components is described, in which several adsorption columns are arranged in a closed loop with a pair of adjacent columns connected to each other by a block valve. By closing 2 of the block valves, these adsorption columns are divided into (1) an adsorption zone where the desired component of the liq. feed is adsorbed, (2) an desorption zone from where the adsorbed component is removed and withdrawn as the liq. **product**, and (3) a neutral zone. As the process progresses, the adsorption zone and the desorption zone move downward to maintain the sepn. efficiency. Thus, 12 adsorption columns which were packed with amberlite XAD-1 adsorbent, were used for sepg. a mixed soln. contg. **phenylalanine** 0.1 mol/L and NaCl 1.4 mol/L. The liq. feed was fed into the adsorption zone at 1.40 mL/min and H2O at 4.10 mL/min was fed into the desorption zone for desorbing the **phenylalanine**. The moving period was 12.04 min. As a result, the liq. **product** contained **phenylalanine** 0.060 mol/L and NaCl .ltoreq.0.005 mol/L while the adsorbed **raffinate** contained **phenylalanine** .ltoreq.0.001 mol/L and NaCl 0.615 mol/L.

IT **63-91-2P, preparation**
RL: PREP (Preparation)
(sepn. of, from sodium chloride soln., by moving-bed adsorption)

L19 ANSWER 27 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:194666 HCAPLUS
DOCUMENT NUMBER: 106:194666
TITLE: The separation of glutathione and **glutamic acid** using a simulated moving-bed adsorber system
AUTHOR(S): Maki, Haruhiko; Fukuda, Hideki; Morikawa, Hisashi
CORPORATE SOURCE: Eng. Res. Lab., Kanegafuchi Chem. Ind. Co., Ltd., Hyogo, 676, Japan

SOURCE: J. Ferment. Technol. (1987), 65(1), 61-70
CODEN: JFTED8; ISSN: 0385-6380
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glutathione (GSH) [70-18-8] and **glutamic acid** (**Glu**) [**56-86-0**] were continuously sepd. using a simulated moving-bed adsorber system. In this system, a specially-designed multi-port rotary valve was used to move the adsorbent particles, and its rotation speed and the liq. flow rate in the adsorber were controlled by a personal computer. Under the optimal conditions for the simulated moving-bed adsorber, both the purity and the yield coeff. of GSH in the **raffinate** stream at a steady state reached .apprx.99%, and the concn. of GSH and the **prodn.** of GSH for the amt. of adsorbent used were 10-18-fold greater than for the conventional batch operation. The adsorption isotherms of GSH and **Glu**, which were non-linear and concn.-dependent, were well expressed using several parameters, and also the courses of GSH and **Glu** concns. in transient changes to the steady-state condition could be predicted well by the intermittent moving-bed model.

IT **56-86-0, Glutamic acid**, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from glutathione in simulated moving-bed adsorber system)

L19 ANSWER 28 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:503479 HCAPLUS
DOCUMENT NUMBER: 103:103479
TITLE: Biomass from hydrocarbons
INVENTOR(S): Thiems, Klaus; Bauch, Joachim; Langner, Juergen; Brendler, Walter; Tuchman, Gerhard; Reichelt, Lothar; Hallensleben, Siegfried; Kammel, Klaus; Listewnik, Hans Frieder; et al.
PATENT ASSIGNEE(S): VEB Petrolchemisches Kombinat Schwedt, Ger. Dem. Rep.; All-Union Scientific-Research Institute of Protein Biosynthesis
SOURCE: Ger. (East), 14 pp.
CODEN: GEXXA8
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 219038	A3	19850220	DD 1982-240565	19820609

AB A procedure for **prodn.** of biomass by cultivation of yeast on petroleum distillates or **raffinates** is described in which infection limiting foam development is prevented by simultaneous aeration and exposure to temp. 313-333 K before drying. Thus, Lodderomyces elongisporus was cultured for 4 h at 306 K in a pH 3.2 medium contg. 16.5% petroleum distillate of b.p. 513-633 K, CaCl2, MgSO4, ZnSO4, MnSO4, FeCl2, H3PO4, and propylene oxide/ethylene oxide adduct. The yield was 3.6 kg dried yeast (.apprx.65.degree. efficiency based on alkane content of the petroleum distillate). The final biomass suspension was concd., then heated and aerated (313-323 K and 50m3 air/h, resp.) for 8 h.

By preventing the induction of anaerobic bacteria into the medium, a higher quality **product** was obtained. The dried **product** contained protein 61.7, **lysine** 7.7, **methionine** 1.4, nucleic acids 7.8%, Mg 1390 kg/kg, Cu 79, Fe 500, Mn 160, and Zn 770 mg/kg.

L19 ANSWER 29 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:616390 HCAPLUS
DOCUMENT NUMBER: 101:216390
TITLE: Immunosuppressant polypeptide fraction
INVENTOR(S): Michael, J. Gabriel; Pesce, Amadeo J.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 8 pp. Cont.-in-part of U.S. 4,338,297.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4469677	A	19840904	US 1982-393771	19820630
US 4338297	A	19820706	US 1980-139881	19800414
EP 113712	A1	19840725	EP 1982-902416	19820630
EP 113712	B1	19890315		
R: FR				
GB 2134908	A1	19840822	GB 1984-4708	19820630
GB 2134908	B2	19851218		
DE 3249519	T	19841129	DE 1982-3249519	19820630
PRIORITY APPLN. INFO.:			US 1980-139881	19800414
			WO 1982-US886	19820630

AB Immunosuppressant fractions, prepd. by the enzymic digestion of specific allergens, when administered in mammals, effect protection against these allergens without the dangerous possibility of anaphylactic shock. Pollen allergens are prepd. from common ragweed, arch and grass, etc. Thus, defatted short ragweed pollen was mixed with distd. water, stirred for 48 h and the slurry obtained was filtered to yield a whole ragweed pollen aq. ext. Solid (NH4)2SO4 was added to 90% satn. and the mixt. centrifuged. The ppt. was sepd. and dissolved in 0.1 M Tris buffer (pH 7.9) and the soln. was passed through Sephadex G25 sieves. The 1st peak **raffinate** from the column was fraction A which was centrifuged and the supernatant portion lyophilized. The lyophilized fraction was dissolved in 0.1 M NaHCO3 (pH 8.0). Nagarase [9014-01-1] proteolytic enzyme from **Bacillus** subtilis was dissolved in 0.1 M NaHCO3 and the soln. added to the fraction A (1:100) and incubated. A crude polypeptide-active ragweed pollen immunizing fraction was obtained. The effectiveness of polypeptide-active immunosuppressant was demonstrated in mice.

L19 ANSWER 30 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:590088 HCAPLUS
DOCUMENT NUMBER: 97:190088
TITLE: Biodenitrification of gaseous diffusion plant aqueous wastes: fluid-bed reactor
AUTHOR(S): Kowalchuk, M.
CORPORATE SOURCE: Goodyear At. Corp., Piketon, OH, USA
SOURCE: Report (1982), GAT-2011; Order No. DE82009720,

31 pp. Avail.: NTIS
From: Energy Res. Abstr. 1982, 7(15), Abstr. No. 39066
DOCUMENT TYPE: Report
LANGUAGE: English
AB The decontamination and U recovery operations at Portsmouth generate **raffinates** which contain nitrate. The nitrate discharges are presently within EPA limits. However, more stringent limits go into effect on Oct. 2, 1982. These limits cannot be **met** by present operating methods without seriously restricting decontamination and recovery operations. A biodenitrification process will therefore be used at Portsmouth to reduce the nitrate concn. to acceptable levels. Pilot plant studies using a fluid-bed reactor were carried out. Process operating parameters were characterized, and design criteria for the full-scale facility which is to be built at Portsmouth were devised. Where operations were completed, the pilot plant, equipped with a 20-in. bioreactor, was shipped to Portsmouth. It will allow GAT to meet EPA limits and will accommodate 9000 L of **raffinate** per mo.

L19 ANSWER 31 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:49876 HCAPLUS
DOCUMENT NUMBER: 94:49876
TITLE: Study and use of soft paraffins and ceresins (People's Republic of Bulgaria)
AUTHOR(S): Kazakova, L. P.; Gundyrev, A. A.; Furnadzhieva, P. T.; Antonov, Ts.; Gancheva, I.
CORPORATE SOURCE: Mosk. Inst. Neftekhim. Gazov. Prom., Moscow, USSR
SOURCE: Khim. Tekhnol. Topl. Masel (1980), (8), 51-3
CODEN: KTPMAG; ISSN: 0023-1169
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The title oil and waxy fractions were recovered from filtrates in the deoiling of slack wax and petrolatum which are **produced** in the dewaxing of petroleum fractions of various viscosities. The paraffin oils recovered from filtrates in the deoiling of low- and medium-viscosity petroleums contained 86-92 wt.% of a mixt. of n-paraffins and cyclic hydrocarbons with straight side chains. The oil and waxy fractions consist primarily of paraffinic-naphthenic hydrocarbons (75-95 wt.%), with the waxy fraction being characterized by a high content of aroms. (.apprx.22 wt.%). The properties of the oil and waxy fractions recovered from a 3-step deoiling procedure at different times are const. and independent of the petroleum compn. The soft paraffins **produced** from a medium viscosity **raffinate** was tested as a base stock for a Ca lubricating grease and **met** the technol. requirements.

L19 ANSWER 32 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1972:74493 HCAPLUS
DOCUMENT NUMBER: 76:74493
TITLE: New progress in the **production** of lubricating oils by high-pressure hydrogenation
AUTHOR(S): Novak, Vaclav
CORPORATE SOURCE: Czech.
SOURCE: Sb. Pr. Vyzk. Chem. Vyuziti Uhli, Dehtu Ropy (1971), No. 11, 81-110
CODEN: SVCDAQ

DOCUMENT TYPE: Journal
LANGUAGE: Czech
AB A premium motor oil base of high viscosity index (VI) was obtained by high-pressure hydrogenation of heavy vacuum distillate from Romashkino crude at 200-50 bars. Under prolonged exposure to uv irradn., however, oxidn. **products** formed which were insol. in this essentially parafinic oil. Their pptn. was avoided by the addn. of 20-40% of duosol **raffinate** (rich in middle aromatics). To this mixt. was added Santolube 493 0.75, Santolube 688 2.2, and polymethacrylate 0.7%. A 20W/50 motor oil having VI 95-100 was developed from this stabilized oil and evaluated in full-size test engines. The oil **met** the requirements of DEF 2101C-Supplement 1 and DEF 2101D.

L19 ANSWER 33 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1971:423537 HCAPLUS
DOCUMENT NUMBER: 75:23537
TITLE: Selection of a method for purifying transformer oils from mixtures of Fergana and Turkmen petroleums
AUTHOR(S): Voznesenskaya, E. V.; Stoyanovich, R. K.
CORPORATE SOURCE: USSR
SOURCE: Tr., Vses. Nauch.-Issled. Inst. Pererab. Nefti (1970), No. 12, 65-73
CODEN: TIPNA7
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Distillates from mixts. of Fergana or Fergana and Turkmen low-S petroleums were processed into transformer oils with low viscosity and low pour point by phenol extn. in a pilot plant countercurrent column 6.3 m .times. 100 mm (diam.) or by hydrorefining over an Al-Co-Mo catalyst at 400.degree., 40 atm, and space velocity (feed) 1 hr-1. The 1st method gave better results than the solvent refining of high-S Tuimazy petroleum having similar viscosity (phenol ratio 1.6:1 and 2.5:1, **raffinate** yield .apprx.70 and 65 wt. , resp.). The transformer oil **manufd.** **met** the GOST 10121-62 specification and contained only 0.11 S. The 2nd method gave a **product** with poorer phys.-chem. characteristics and therefore a high-temp. hydrogenation on Al-Co-Mo or Al-Mo catalyst was recommended.

L19 ANSWER 34 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1971:128253 HCAPLUS
DOCUMENT NUMBER: 74:128253
TITLE: Separation of lanthanum from a rare earth chloride mixture using a multistage mixer-settler
AUTHOR(S): Castro, Martin G.; Smutz, Morton; Bautista, Renato G.
CORPORATE SOURCE: Inst. At. Res., Iowa State Univ., Ames, Iowa, USA
SOURCE: Trans. AIME (1971), 250(1), 42-5
CODEN: TAIMAF
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two mixer-settlers were made in 10-stage and 20-stage rectangular box sections. Each stage was divided into a mixing chamber and a settling chamber, with a pump-mixer suspended in each mixing

chamber. The total vol. of liq. in each settling and mixing chamber at any time was 1.05 and 0.50 l., resp. Didymium chloride flakes were used for the rare earth chloride feed (La 46, Pr 10, Nd 33, Sa 6, Gd 3, Ce 1, and other rare earth elements 2%. The 2.64 M rare earth chloride feed soln. was **prepd.** by dissolving the flakes in H2O and adding a small amt. of HCl. The Ce was >10%. The expts. showed that the extractor could be operated and maintained at steady state when used with the system: 0.5 M di(2-ethylhexyl) phosphoric acid (I) in mineral spirits (an aliphatic naphtha with a boiling range from 177 to 199.degree.) for the org. solvent, 0.1 M HCl as the aq. scrub solvent, and 2.64 M ReCl3 as the feed. A high purity La **product** was **produced** with the 20-stage unit. A 97% La **raffinate product** was **produced** with a 60% La recovery. Use of 0.5 M I was the main factor in stable operation of the mixer-settler. It took the system out of the gel and emulsion regions **met** in previous work with 1.0 M I.

L19 ANSWER 35 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1970:526204 HCAPLUS
DOCUMENT NUMBER: 73:126204
TITLE: Uranium recovery from aluminum alloyed fuel ICPP [Idaho Chemical Processing Plant] run No. 25
AUTHOR(S): Bendixsen, C. L.; Matule, A. J.
CORPORATE SOURCE: Idaho Nucl. Corp., Idaho Falls, Idaho, USA
SOURCE: U. S. At. Energy Comm. (1969), IN-1329, 33 pp. Avail.: Dep.; CFSTI
From: Nucl. Sci. Abstr. 1970, 24(6), 9430
CODEN: XAERAK
DOCUMENT TYPE: Report
LANGUAGE: English
AB About 677 kg of highly enriched U were recovered from Al-alloyed fuels. Overall **product** recovery was greater than 99.93% and all **product** easily **met** required specifications. The feasibility of recovering Np at ICPP was again demonstrated by recovering 99% of the Np in the 2nd-cycle **raffinate** generated during the campaign. Pre-run modifications to the extn. systems simplified the processing campaign; and as a result of the experience gained on the run, other modifications are actively being considered at the ICPP.

L19 ANSWER 36 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:106777 HCAPLUS
DOCUMENT NUMBER: 66:106777
TITLE: **Production** of transformer oil by sulfuric acid and alkali treatment with electrodeposition
AUTHOR(S): Mitrofanov, M. G.; Martynenko, A. G.; Narykov, N. A.; Zudikova, V. M.
SOURCE: Tr. Grozn. Neft. Nauchno-Issled. Inst. (1966), No. 20, 155-61
CODEN: TNNIAH
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Transformer oils were made from Anastasiev and Sakhalin crudes by a continuous acid treating process involving electrodeposition. Feed from the electrodehydrator and H2SO4 in a predetd. ratio were led into the reactor, agitated for a given period, and then transferred

at a given rate into the electroprecipitator. This was a 3200 ml. glass vessel, measuring 270 .times. 220 .times. 85 mm., fitted with two vertical core electrodes 4 mm. in diam. mounted in porcelain insulators. A rectifier supplied const. high voltage to the electrodes. The feed was a distillate from a 2:1 mixt. of Katanglyi and Okhin crudes. Optimal conditions were 10% H2SO4 treat, electrodeposition at 30-5.degree., with 10 kv. between the electrodes at a current of 2 .mu. amp., and space velocity 0.5 hr.-1 After removal of the acidic asphalts from the acidified oil in the electrodepositor, the remaining H2SO4 and naphthenic acids were removed from the **raffinate** by contacting with 3.5% NaOH soln. for 30 min. Alk. H2O was removed by electrodeposition at 35-40.degree.. Na-free oil was obtained without the need for H2O washing by contacting with silica-alumina at 35.degree. and filtering. The properties of transformer oils made from Anastasiev and Sakhalin crudes, resp., were as follows: viscosity at 20.degree., 23.9, and 24.3 centistokes; viscosity at 50.degree., 7.44 and 7.37; acid no., 0.025 and 0.026 mg. KOH/g.; ash, 0.0018 and 0.0024%; closed flash point, 140 and 150.degree.; pour point, -47 and -47.degree.; tan. dielec. loss at 20.degree., 0.11 and 0.10%; tan. dielec. loss at 70.degree., 0.78, and 0.65. Both samples were free from water sol. acid and alkali and mech. admixts., and both **met** the GOST 982-56 standard.

L19 ANSWER 37 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:77997 HCAPLUS
DOCUMENT NUMBER: 66:77997
TITLE: **Production** of transformer oils from Mukhanov Devonian crude
AUTHOR(S): Denisenko, K. K.; Badyshtova, K. M.; Mikhailov, I. A.
SOURCE: Tr., Kuibyshev. Nauchno-Issled. Inst. Neft. Prom-sti. (1965), No. 32, 67-78
From: Ref. Zh., Khim. 1966, Pt. II, Abstr. No. 18P92
CODEN: TKNPAH
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB To obtain stable transformer oil, a definite degree of distillate refining is necessary, since oil stability depends on its chem. compn. Data are given characterizing the dependence of yield and quality of oils (and also of the main **raffinate**) on the multiplicity factor of the adsorbent in adsorption refining of a distillate (300-400.degree. fraction) of Mukhanov Devonian crude (solidification temp. -45.degree.). The desorbed **raffinates** differed from exts. from phenol refining in their lighter color, somewhat lower densities and viscosities, and higher S content. Transformer oils from adsorption and phenol refining obtained with similar multiplicity factors for reagent treatment **met** standard specifications for viscosity, solidification temp., acid no., and other indexes, except for stability (detd. by a method based on acid no. after oxidn.). Data are given showing the change in the chem. compn. of oils as a function of the degree of refining. **Production** of transformer oils by adsorption refining from Mukhanov Devonian crudes does not require high adsorbent multiplicity factors in refining, and a high-grade **product** can be obtained in a max. amt. only by adding an antioxidant if the multiplicity factor is .ltoreq.1.

L19 ANSWER 38 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:30672 HCAPLUS
DOCUMENT NUMBER: 66:30672
TITLE: Condenser oil from distillates of Eastern high-sulfur crudes
AUTHOR(S): Varshavskii, D. S.; Kalantar, N. G.
SOURCE: Izv. Vyssh. Uchebn. Zaved., Energ. (1966), 9(9), 33-7
CODEN: IVZEAY
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB An improved oil for use in oil-paper condensers was made by continuous counterflow extn. with 100% phenol of a light spindle distillate from Tuimazy crude. The **raffinate** was dewaxed at -52.degree. with toluene-Me2CO, giving a **product** with pour point -48.degree.; this was then given a 10% clay treatment. By this refining sequence of the optimum hydrocarbon compn. to minimize gassing was achieved. Thus, most of the polar and asym. polycyclic aromatics, which give high dielec. losses, were removed, but sufficient aromatics were retained to stabilize the oil in the presence of ionizing atms. The finished oil, coded D-185, **met** all the requirements of GOST 5775-51 with the unimportant exception of color. Its elec. properties were considerably better than those called for by the standard. Thus, dielec. permeability at 20.degree. was 2.33, the tangent of the dielec. loss at 50 cycles/sec. was 0.1 at 70.degree. and 0.4-0.5 at 100.degree., and the breakdown strength was 24 kv./mm. No evolution of gas took place over a 700-hr. test. In comparative tests of D-185 against conventional Soviet condenser oil carried out in identical paper condensers, those condensers filled with D-185 invariably had 5-8% greater capacities than the others. Scatter in tan .delta. measurement at 50 cycles/sec. for condensers was within exptl. error at 20.degree.; but at 100.degree., tan .delta. for D-185 was 2-6% higher than for the conventional **products**; this agrees with the increased dielec. permeability. Field tests were carried out on condensers made from different types of paper, by different **manufacturing** methods, and with a range of dielec. thicknesses. In every case, condensers contg. D-185 had much longer lives than the others. Thus, in a batch of 5-layer condensers made from 134 g./cm.3 paper, after 700 hrs. all the units contg. conventional oil had broken down, but only 20% of these impregnated with D-185 were lost. After 2250 hrs. only another 5% broke down, and there was no further wastage after 4000 hrs.

L19 ANSWER 39 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1966:411389 HCAPLUS
DOCUMENT NUMBER: 65:11389
ORIGINAL REFERENCE NO.: 65:2041b-d
TITLE: Solvent extraction of aromatics
INVENTOR(S): Shiah, Chyn Doug
SOURCE: 11 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 3249532	19660503	US	19610320

AB A liquid-liquid extn. process for the recovery of high-purity aromatics from hydrocarbon stocks of all boiling ranges which does not require the use of high pressure, low temp., or corrosion-resistant materials, comprises: contact of the hydrocarbon oil feed (I) with dimethylformamide (II) to **produce** a primary **raffinate** contg. the portion of I rich in nonaromaties and a primary ext. contg. a portion of I rich in aromatics together with most of II; contact of the primary ext. with a secondary paraffin-hydrocarbon solvent (III) immiscible with II but miscible with I and having a boiling range differing at least 60.degree.F. from that of I, to **produce** a secondary **raffinate**, consisting of II, and a secondary ext. contg. mainly I rich in aromatics, III, and a small amt. of II; and fractionating the secondary ext. III was recovered and recycled and the aromatics washed with water prior to storage to sep. it from small amts. of I. I is recovered substantially as secondary **raffinate** by treatment with III and is also recycled. The ratio of solvent to the feed may range from 1:1 to 5:1, the lower ratio being applicable to lubricating oils and the higher ratios to the higher stocks, e.g. catalytic reformates. Another solvent may be added to II to modify solvency and selectivity of I, e.g. H2O or glycerol. Thus, a xylene-rich cut from the refinery contg. 90 vol.% aromatics and having **asp**. gr. of 0.846 at 60.degree.F. was countercurrently extd. in a 1'' .times. 4' glass Seheibel column contg. 11 stages. The solvent, a mixt. of II and glycerol, was introduced at the top of the column, and pentane, at a pentane/ feed ratio of 1.6/1, was introduced at the bottom. An ext. stream was recovered that contained 99.6% of the aromatic feed hydrocarbons, these hydrocarbons having an aromatics content of 99.5% vol.% after removal of the pentane.

L19 ANSWER 40 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1961:15454 HCAPLUS
DOCUMENT NUMBER: 55:15454
ORIGINAL REFERENCE NO.: 55:3045e-g
TITLE: Refining of No. 1 fuel oil from Fushun shale oil with liquid SO2
AUTHOR(S): Chang, Yuen-Chi; Chu, Hung; Chi, Cheng-Chung
SOURCE: Jan Liao Hsueh Pao (1958), 3, 243-54
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The soly. of No. 1 fuel oil in liquid SO2 as well as the equil. distribution of S-contg., N-contg., and some unsatd. compds. (94% H2SO4 sol.) in No. 1 fuel oil and liquid SO2 were detd. Liquid SO2 has high selectivity for the removal of S and N compds. from the light oil from Fushun shale oil. At 0.degree., a liquid SO2/oil vol. ratio of 0.65, and 2 theoretical extn. stages, **products** were obtained which **met** the specifications for kerosine and light diesel fuel. As compared with processes using other solvents, the liquid-SO2 process required a smaller amt. of solvent and fewer extn. stages, but gave a smaller yield of **raffinate** with equivalent properties.

L19 ANSWER 41 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1959:65077 HCAPLUS
DOCUMENT NUMBER: 53:65077

ORIGINAL REFERENCE NO.: 53:11811a-d
TITLE: Utilization of ozocerite distillates in the **manufacture** of wax melts and of petrolatum
AUTHOR(S): Bilik, N. P.; Rodzaevskaya, V. D.; Trifsik, R. B.
SOURCE: Novosti Neftyanoi Tekh., Neftepererabotka (1956), (No. 5), 16-19
From: Referat. Zhur., Khim. 1957, Abstr. No. 16667
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Physicochem. characteristics are given for distillates obtained during the conversion of ozocerites from different deposits into ceresins. The solid hydrocarbon content and the properties of the latter, sepd. from acetophenone by crystn. at different temps., are given. The possibility of utilizing the fractions for the **production** of tech. and pharmaceutical petrolatum and of wax melts was investigated. To **produce** tech. petrolatum, 90% of Baku crude oil and 10% of a fraction of ozocerite from Borislav were used, the latter as a substitute for paraffin wax. The exptl. sample of petrolatum satisfied completely the tech. requirements. For pharmaceutical petrolatum Aimen-Meshed ozocerite distillate was refined with 25% H_2SO_4 (d. 1.84) by the hot-acid method by using 10% of diatomaceous earth. The light-yellow **raffinate** was mixed with perfume oil at a ratio of 1:4 to obtain a **product** which **met**, by its appearance and by its physicochem. characteristics, the standard requirements of pharmaceutical petrolatum. The distillate of Shorsinsk ozocerite, which was richest in solid hydrocarbons, was utilized as a substitute for wax melt No. 36. For this purpose it was treated with 30% H_2SO_4 and with 15% of diatomaceous earth by the hot-acid method to give a **product** with a dropping point of 60.5.degree. and satisfying all requirements for melt No. 36.

L19 ANSWER 42 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1959:16331 HCAPLUS
DOCUMENT NUMBER: 53:16331
ORIGINAL REFERENCE NO.: 53:2981a-b
TITLE: Laboratory and pilot-plant evaluation of Can-**Met** uranium concentrate
AUTHOR(S): Hicks, Clark T.; Krekeler, Jerome H.; Nelli, Joseph R.
CORPORATE SOURCE: Natl. Lead Co. of Ohio, Cincinnati
SOURCE: U.S. Atomic Energy Comm. (1958), NLCO-740, 10 pp.
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The concentrate **produced** by Can-**Met** Exploration, Ltd., in the Blind River area of Ontario is probably a Mg ppt. of an ion-exchange liquor. The concentrate contains U 46.48%. The Th content is 0.040 vs. the tolerance limit of 0.035% on the U basis. Otherwise all tolerance limits are **met**. In the solvent extn. unit Th was complexed by the addn. of PO_4 10% on the U basis. The operation of the 2-in. column was satisfactory. When the pulse frequency was lowered from 65 to 55 cycles/min. no emulsification problems were encountered and **raffinate** losses were within the specification. Cf. C.A. 52, 19778g.

L19 ANSWER 43 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1955:73529 HCAPLUS
DOCUMENT NUMBER: 49:73529
ORIGINAL REFERENCE NO.: 49:13963a-i,13964a-e
TITLE: Synthetic plant hormones. V. Synthesis of 2-(3-in-dolyl)isobutyric acid, an antagonist of 3-indoleacetic acid, and of some other 1- and 3-indolyl acids
AUTHOR(S): Erdtman, H.; Jonsson, A.
CORPORATE SOURCE: Kngl. Tek. Hogskolan, Stockholm
SOURCE: Acta Chem. Scand. (1954), 8, 119-26
DOCUMENT TYPE: Journal
LANGUAGE: English

AB cf. C.A. 48, 5151f. 2-(3-Indolyl)isobutyric acid (I) was prepd. in 30% yield by slowly adding 156 g. CHCl3 to a stirred mixt. of 117 g. indole (II), 1.0 l. dry Me2CO, and 220 g. NaOH kept below 15.degree., stirring 1 hr. at room temp. and 4 hrs. on the steam bath, distg. off the Me2CO, dissolving the solid residue in H2O, extg. with Et2O to remove unreacted II, acidifying the aq. mixt., esterifying the resulting washed and dried oil by refluxing in anhyd. EtOH contg. 5% H2SO4, extg. the product with Et2O, and washing the ext. with H2O, NaHCO3 soln., and H2O again, then drying and distg. it; the distillate, b3 180-205.degree., solidified on standing, and crystd. from (C6H6-petr. ether (b. 40-60.degree.) gave 42 g. (32% calcd. on II consumed) Et ester (III) of I, m. 106-7.degree.. III refluxed 4 hrs. with excess 40% aq. NaOH made homogeneous by addn. of EtOH gave I, coarse needles from CHCl3-petr. ether, m. 135.degree., in almost quant, yield; cyclohexylammonium salt, needles from EtOH-Et2O, m. 162-3.degree. (decompn.). When the above reactions were carried out at reflux temp. and I was isolated without esterifying but by repeatedly extg. the Et2O soln. with NaHCO3 soln., acidifying to pH 5-6 with HOAc, and extg. with Et2O, the over-all yield was 5-10%. The aq. **raffinate** then acidified to pH 1-2, extd. with Et2O, the ext. washed, concd., filtered through Al2O3, the Et2O evapd., and the oil, which crystd. on standing several days, triturated with C6H6-petr. ether gave 5-10% of a dibasic acid (IV), faintly pink needles from aq. dioxane and aq. MeOH, m. 228.degree. (decompn.), shown to be .alpha.,.alpha.,.alpha.',.alpha.'-tetramethyl-1,3-indolediacetic acid instead of dl-2-[1-(2-carboxypropyl)-3-indolyl]isobutyric acid (V) by the synthesis of V by heating 8.0 g. III, 4.0 g. CH2:CMeCN, alc. NaOEt from 0.1 g. Na, 25 ml. abs. EtOH, and 0.05 g. Cu(OAc)2 4 hrs. at 120-30.degree. in an autoclave, hydrolyzing the resulting nitrile by refluxing 5 hrs. with alc. KOH, pouring the mixt. into H2O, filtering and acidifying; the acid products extd. with Et2O and the ext. washed, dried, and evapd. gave 8.3 g. noncrystallizable oil, which with excess cyclohexylamine in EtOH yielded the cyclohexylammonium salt of, V, m. 184-8.degree. (decompn.). V, obtained from its salt by treatment with dil. H2SO4 and crystn. from CHCl3-petr. ether, formed colorless needles, m. 163-4.degree.. I was also prepd. from 10.6 g. Me2C(OH)CN, 12 g. II, 10 g. NaOH, and 50 ml. anhyd. iso-PrOH by heating 18-24 hrs. at 135.degree. in a stainless-steel autoclave with Ag packings, pouring the product from 3 such runs into H2O, extg. the neutral products with Et2O, acidifying the aq. soln. and extg. with Et2O; washing, drying, and evapg. the ext. afforded an oil which crystd. in the refrigerator overnight; crystn. from C6H6-petr. ether gave 15 g. I, m. and mixed

m.p. and with the product from the Me2COCHCl3 reaction, 135.degree. In addn. was obtained 14 g. of a neutral product, colorless prisms from aq. EtOH, m. 163.degree., identical (mixed m.p) with 2,2-di-3-indolylpropane (VI), prepd. from II and Me2CO in HOAc by the method of Scholtz (C.A. 7, 2559). The reaction carried out in EtOH instead of iso-PrOH gave a mixt. of I and 2-(3-indolyl)propionic acid (VII). Only unchanged II and 1,1-di-3-indolylethane (VIII) could be isolated from the neutral fraction. The main product was an uncrystallizable oil. VII was prepd. from 12 g. II, 8.8 g. MeCH(OH)CN, 10 g. NaOH, and 50 ml. abs. EtOH exactly as described for Me2C(OH)CN; 3 such reactions gave 19 g. VII, m. 111-12.degree., after repeated crystn. from C6H6-petr. ether; picrate, m. 145-6.degree., agreeing with the picrate of dl-2-(3-indolyl)propionic acid, m. 146-7.degree.; of Kogl and Kostermans (C.A. 30, 130.4). The quinine salt of VII, [.alpha.]20D - 105.degree. (c 1, 95% EtOH) was obtained by the method of resolution of Kogl and Verkaaik (C.A. 41, 7458a). A (+)-acid, m. 137-8.degree., [.alpha.]20D 73.degree. (c 1, 95% EtOH) was obtained from the salt. The acid m. 111-12.degree. must be dl-VII [cf. Ellinger, Ber. 38, 2887 (1905); K. and K., loc. cit.]. Cyclohexylam monium salt of dl-VII, needles from Me2CO, m. 183-5.degree. (decompn.). From the Et2O soln. contg. neutral products was obtained 13.5 g. VIII, m. 162-3.degree., undepressed with VIII (m. 158-60.degree.) prepd. by the method of Oddo and Toffoli (C.A. 28, 6436.8). dl-3-(1-Indolyl)isobutyric acid (IX) was prepd. through its nitrile (X) from 30 g. II, 35 g. CH2:CMeCN, alc. NaOEt soln. from 0.5 g. Na, 50 ml. abs. EtOH, and 0.2 g. Cu(OAc)2 heated as described for the synthesis of V, the mixt. dissolved in Et2O, and the soln. washed, dried, evapd., and distd., yielding 35 g. (74%) X, b3 160-4.degree.. X hydrolyzed by refluxing 3 hrs. in excess 40% aq. NaOH and EtOH, poured into H2O, acidified, the resultant oil dissolved in Et2O, the soln. washed, dried, evapd., and the oil, which solidified, recrystd. from C6H6-petr. ether gave 70% IX, m. 74.degree.. 1-Indoleacetic acid (XI) was prepd. by stirring 22 g. molten II with 17 g. powd. KOH in a salt bath at 200-25.degree. until no more water distd., adding 36 g. dry ClCH2CO2Et to the cooled mixt., heating 4 hrs. at 140-50.degree. with occasional shaking, cooling, adding 25 g. KOH in 75 ml. H2O, heating the mixt. on the water bath 3 hrs., pouring it into H2O, filtering off the unreacted II, acidifying the filtrate, and dissolving the cryst. product in Et2O and filtering through an Al2O3 column gave 12 g. crude XI, m. 174-5.degree. (decompn.) after recrystn.: Smith and Moir (C.A. 47, 3296f) reported 178.4-79.4.degree.. XI deteriorates rapidly on storage. Fischer's chip test and the p-Me2NC6H4CHO test are not very satisfactory in this series. If there is a free 3-position, an initial blue color is obtained. The plant-growth activities of these substances were tested by H. Burstrom, et al. (Lund), and are reported elsewhere. dl-VII is a very potent auxin with the activity due almost exclusively to the (+)-form. XI possesses auxin activity whereas I and IX are antiauxins. Since 3-indoleacetic acid had been found to inhibit the growth of a no. of microorganisms (Dubos, C.A. 41, 1275a; Handler and Kamin, C.A. 42, 1624b) the effect of its branched homologs on various organisms was detd. by Nielson, Kabi, and Wallmark (Statens Bakteriologiska Laboratorium). When tested in concns. up to 0.1 mg./ml. substrate I had no significant effect on Staphylococcus aureus and albus, Enterococci, Pseudomonas pyocyanea, Proteus vulgaris, Salmonella paratyphi, Pneumococcus, .alpha.-Streptococcus, .beta.-

Streptococcus, Mycobacterium tuberculosis, some **Bacillus** species, Escherichia **coli**, Candida albicans, and Pullularia pullulans. It showed an inhibitory effect on Sarcina lutea and B. subtilis. VII in concns. up to 1.0 mg./ml. had no significant effect on Sarcina lutea, S. aureus, B. subtilis, E. **coli**, Streptomyces griseus, Aspergillus niger, Penicillium chrysogenum, and Pullularia pullulans.

L19 ANSWER 44 OF 44 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1943:2947 HCAPLUS
DOCUMENT NUMBER: 37:2947
ORIGINAL REFERENCE NO.: 37:518e-g
TITLE: Solvent extraction of Pennsylvania lubricating oils with dimethylformamide
AUTHOR(S): Ward, Henry T.
SOURCE: Trans. Am. Inst. Chem. Engrs. (1942), 38, 931-46
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Solvent-extn. processes for the improvement of lubricating oils are performed by practically all large companies with the use of about a half dozen specific extn. agents. The properties of all the solvents used conform, within limits, to certain predefined specifications, such as volatility, stability, sp. gr., cost, availability, and most important, to selectivity. Dimethylformamide has been investigated to a limited extent on Pennsylvania lubricating stocks and found to be capable of improving viscosity index and C residue without too serious a loss in yield of **product**. Extns. were made by batch (single and multiple) and by continuous tower operation. It is concluded that the requirements of the property of selectivity are **met** by this solvent. Likewise volatility and stability are satisfactory. The solvent is too new to make predictions concerning its availability and cost. Its low sp. gr. of 0.953 might **produce** problems in speed of sepn. of **raffinate** and ext. layers in a com. application; however, this is considered not insurmountable.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, PHIC, PHIN, TOXCENTER' ENTERED AT 14:42:39 ON 29 OCT 2002)
L16 17 S L9
L17 6 S L2
L18 1 S L3

L20 20 S L16 OR L17 OR L18
L21 17 DUP REM L20 (3 DUPLICATES REMOVED)

L21 ANSWER 1 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-340018 [37] WPIDS
DOC. NO. CPI: C2002-097752
TITLE: New Escherichia **Coli** strains which overproduce L-**threonine** and processes for **producing** L-**threonine** by fermentation.
DERWENT CLASS: B04 D16 E16
INVENTOR(S): BRADSHAW, J S; LIAW, H J; MAO, W; YANG, Y
PATENT ASSIGNEE(S): (BRAD-I) BRADSHAW J S; (LIAW-I) LIAW H J; (MAOW-I) MAO W; (YANG-I) YANG Y

COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002026993	A1	20020404	(200237)*	EN	92

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001096415 A 20020408 (200252)
US 2002106800 A1 20020808 (200254)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002026993	A1	WO 2001-US30558	20010928
AU 2001096415	A	AU 2001-96415	20010928
US 2002106800	A1 Provisional	US 2000-235884P	20000928
		US 2001-962303	20010926

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001096415	A Based on	WO 200226993

PRIORITY APPLN. INFO: US 2000-235884P 20000928; US 2001-962303 20010926

AN 2002-340018 [37] WPIDS

AB WO 200226993 A UPAB: 20020709

NOVELTY - Escherichia **coli** strain comprising at least one chromosomally integrated **threonine** operon operably linked to a non-native promoter, where the strain **produced** 95-150 g/L of L-**threonine** by 48 hours of growth in culture and is not strain KY10935, ADM TH1.2 or ADM Kat13, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(a) an E. **coli** strain having enhanced L-**threonine production** which is resistant to cyclopentanecarboxylic acid;

(b) an E. **coli** strain resistant to **threonine raffinate** and **produces** 95-150 g/L of L-**threonine** by 48 hours of growth in culture;

(c) **production** of the E. **coli** strains; and

(d) **production** of L-**threonine** by culturing the E. **coli** strains.

USE - The bacterial strains are useful in fermentation processes for **production** of amino acids, particularly Lthreonine.

ADVANTAGE - The E. **coli** strains **produce** L-**threonine** in high amounts and yields.

Dwg.0/8

L21 ANSWER 2 OF 17 WPIDS (C) 2002 THOMSON DERWENT DUPLICATE 1
ACCESSION NUMBER: 2001-168704 [17] WPIDS
DOC. NO. CPI: C2001-050429
TITLE: **Production** of an improved **raffinate**-resistant, amino acid-**producing** bacterial strain, e.g. a **Corynebacterium** strain by mutagenesis.
DERWENT CLASS: B05 D16 E19
INVENTOR(S): DANCEY, R; EDDINGTON, J M; LIAW, H J; MAO, W; SWISHER, S; YANG, Y
PATENT ASSIGNEE(S): (ARCH) ARCHER-DANIELS MIDLAND CO
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009306	A2	20010208	(200117)*	EN	29

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2000065064	A	20010219	(200129)		
EP 1198564	A2	20020424	(200235)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

BR 2000012966	A	20020514	(200240)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009306	A2	WO 2000-US20899	20000801
AU 2000065064	A	AU 2000-65064	20000801
EP 1198564	A2	EP 2000-952348	20000801
		WO 2000-US20899	20000801
BR 2000012966	A	BR 2000-12966	20000801
		WO 2000-US20899	20000801

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000065064	A	Based on	WO 200109306
EP 1198564	A2	Based on	WO 200109306
BR 2000012966	A	Based on	WO 200109306

PRIORITY APPLN. INFO: US 1999-146350P 19990802
AN 2001-168704 [17] WPIDS
AB WO 200109306 A UPAB: 20010328
NOVELTY - A new method for **production** of an improved **raffinate**-resistant, amino acid **producing** bacterial strain B comprises mutagenizing a parental bacterial strain A, contacting the mutated parental strain A with a medium containing at least 1 % **raffinate** based on ammonia sulfate content, selecting a **raffinate**-resistant bacterial strain

B and determining its amino acid **production**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a bacterial strain B **produced** by the above method;

(2) a **Corynebacterium** strain **producing** at least 10 g/l L-**lysine** in 24 hours when grown in a medium containing at least 1 % **raffinate**;

(3) a **Brevibacterium** strain **producing** at least 10 g/l L-**lysine** in 24 hours when grown in a medium containing at least 1% **raffinate**;

(4) an L-**lysine producing** bacterial strain, where the strain is selected from NRRL **B-30059**, NRRL **B-30060**, NRRL **B-30061**, NRRL **B30062**, NRRL **B-30063** or their mutants; and

(5) a method for the **production** of an amino acid, comprising:

(a) culturing a bacterium B in a medium containing **raffinate**, where the bacterial strain B is **produced** as described by the above method; and

(b) recovering the amino acid from the culture media.

USE - The method is useful for **producing** of an improved **raffinate**-resistant, amino acid **producing** bacterial strain, e.g. a **Corynebacterium** strain **producing** L-**lysine**.

Dwg.0/0

L21 ANSWER 3 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:346249 BIOSIS
DOCUMENT NUMBER: PREV200100346249
TITLE: Process for **producing** ammonium-2-hydroxy-4-(methylthio)-butyrate, mixtures containing the same in liquid form and their use.
AUTHOR(S): Suchsland, Helmut (1); Kohl, Heinz
CORPORATE SOURCE: (1) Rodenbach Germany
ASSIGNEE: Degussa Aktiengesellschaft, Frankfurt, Germany
PATENT INFORMATION: US 6184414 February 06, 2001
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Feb. 6, 2001) Vol. 1243, No. 1, pp. No Pagination. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

AB Process for **producing** ammonium-2-hydroxy-4-(methylthio)-butyrate, mixtures containing the same in liquid form and their use. In order to **produce** ammonium-2-hydroxy-4-methylthio-n-butyrate and mixtures containing the same with a remarkable fluidity and a very low oligomer proportion by a process based on exclusively "liquid" steps, the reaction mixture is treated with a water-immiscible or partially water-miscible inert solvent, until a first organic extract and a first aqueous **raffinate** are obtained, and the first organic extract is decomposed into a second organic extract and a second aqueous **raffinate** by treating it with ammonia and phase separation. Re-extraction of MHA as MHAAS is carried out in the second aqueous **raffinate**, causing salt formation, and MHAAS is isolated from the second aqueous

raffinate. This compound is useful as feedstuff supplement and as **methionine** substitute.

L21 ANSWER 4 OF 17 JICST-EPlus COPYRIGHT 2002 JST
ACCESSION NUMBER: 990435335 JICST-EPlus
TITLE: Recovery of Dimethylnaphthalene Isomers from Light Cycle Oil by O/W/O Emulsion Liquid Membrane Process.
AUTHOR: PUTRAWAN I D G A; OSHIMA S; HABAKI H; EGASHIRA R; KAWASAKI J
CORPORATE SOURCE: Tokyo Inst. Technol., Tokyo
SOURCE: Sekiyu Gakkaishi (Journal of the Japan Petroleum Institute), (1999) vol. 42, no. 3, pp. 136-144. Journal Code: F0042A (Fig. 8, Tbl. 2, Ref. 12) CODEN: SKGSAE; ISSN: 0582-4664
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: English
STATUS: New
AB This paper simulates a process for recovering dimethylnaphthalene isomers(DMN) from light cycle oil(LCO), a by-**product** in cracked gasoline **manufacture**. The process involves a multistage emulsion liquid membrane permeator for separating aromatics from paraffins in LCO and four distillation towers of which two towers are used to recover solvent from **raffinate** and permeate and the others are used to separated DMN from other aromatics in permeate. Stirred vessels are employed as contactors. Prior to the simulation, a series of continuous experiments on emulsion liquid membrane permeation were conducted to collect permeation coefficient data. The permeation coefficient data obtained was thereafter used to develop an empirical correlation needed for the simulation. During the simulation, the effects of permeator variables on the energy demands of the distillation towers and on the yield of DMN were investigated at a fixed DMN concentration in the **product**. The permeator variables studied included solvent-to-feed ratio, stirring rate, number of stages, permeator reflux ratio, and stage volume, as well as the kinds of solvents. DMN yield increased with stirring rate, number of stages, and stage volume, decreasing with permeator reflux ratio, and not affected significantly with solvent-to-feed ratio. The lighter the solvent, the lower were the energy demand and DMN yield. In the conditions of the study, about 80% of DMN in LCO could be recovered. Most of the energy consumed was used to recover the solvent. A quick analysis showed that the energy demands might be **met** by utilizing the **raffinate** obtained. (author abst.)

L21 ANSWER 5 OF 17 JICST-EPlus COPYRIGHT 2002 JST
ACCESSION NUMBER: 980547478 JICST-EPlus
TITLE: Separation of Ethylene Glycol and Sodium Salt of **Serine** by Use of a Simulated Moving-Bed Adsorber.
AUTHOR: SETO TAKATOSHI; ODAGIRI MASAKI; IMANARI MAKOTO HIRATA KENTARO
CORPORATE SOURCE: Mitsubishi Chemical Corp.
Mitsubishi Chemical Corp.
SOURCE: Kagaku Kogaku Ronbunshu, (1998) vol. 24, no. 3, pp. 402-406. Journal Code: S0110B (Fig. 6, Tbl. 2, Ref. 13)

CODEN: KKRBAW; ISSN: 0386-216X
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: Japanese
STATUS: New
AB Separation of ethylene glycol and sodium salt of **serine** is important in the processing of **serine** by the Strecker method using glycol aldehyde **produced** from ethylene glycol. The separations were successfully carried out using a simulated moving-bed four-zone type adsorber which was composed of a sodium salt of strongly acidic cation exchange resin. The moving-bed adsorber used was slightly different from a conventional one in the manner of setting up **Raffinate** 2. Separation of this type was simulated by calculations using an analytical solution of steady state rate equation concerning the adsorption and desorption of the ingredients and the moving bed. The condition needed for separation in the four-zone type with **Raffinate** 2 was discriminated, being generally coincident with the conventional condition of .BETA. value. (author abst.)

L21 ANSWER 6 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 2
ACCESSION NUMBER: 1997:505280 BIOSIS
DOCUMENT NUMBER: PREV199799804483
TITLE: Removal pesticides from wool wax by continuous countercurrent dual-solvent extraction.
AUTHOR(S): Jones, F. William
CORPORATE SOURCE: CSIRO, Div. Wool Technol., P.O. Box 21, Belmont, Vic. 3216 Australia
SOURCE: Journal of the American Oil Chemists' Society, (1997) Vol. 74, No. 10, pp. 1247-1253.
ISSN: 0003-021X.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Pesticide residues in raw wool wax were removed to below detectable levels by continuous countercurrent extraction with hexane and N,N-dimethylformamide (DMF) in a pilot-scale mixer-settler contactor. The disengagement of the phases in the settling compartments was promoted by the addition of a small amount of formic acid (3% vol/vol) to the DMF-rich feed. Empirical equations were developed to predict the effect on the pesticide partition coefficients of the wool wax concentration, the presence of small amounts of water, ethanol, and/or isopropanol in the solvents, and the temperature used in the contactor. These empirical equations were included in equations that describe the concentration of the pesticides in the different stages of the contactor and were used to develop a spreadsheet model that accurately predicted the mixer-settler's performance. The **raffinate** wool wax **produced** by this process after conventional neutralization **met** all BP and USP specifications for pharmaceutical lanolin.

L21 ANSWER 7 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1996-268469 [27] WPIDS
CROSS REFERENCE: 1994-006625 [01]; 1995-074587 [10]; 1995-081529 [11]
DOC. NO. CPI: C1996-085282
TITLE: Separating tantalum and niobium cpds. as solids

from fluorinated ore material - by using mineral acid and complexing agent to dissolve uranium and thorium, for sepn. by solvent extraction, and other metals.

DERWENT CLASS: E11 E37 J01 K08 M25
INVENTOR(S): CARLSON, B J
PATENT ASSIGNEE(S): (ADRE-N) ADVANCED RECOVERY SYSTEMS INC
COUNTRY COUNT: 65
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9615987	A1	19960530	(199627)*	EN	47
RW: AT BE CH DE DK ES FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG US UZ VN					
US 5531970	A	19960702	(199632)		15
AU 9641402	A	19960617	(199638)		
EP 792247	A1	19970903	(199740)	EN	
R: DE FR GB					

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9615987	A1		WO 1995-US14138	19951115
US 5531970	A	CIP of	US 1992-891167	19920529
		CIP of	US 1993-153820	19931115
		CIP of	US 1994-341020	19941117
			US 1995-429341	19950426
AU 9641402	A		AU 1996-41402	19951115
EP 792247	A1		EP 1995-939678	19951115
			WO 1995-US14138	19951115

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5531970	A	CIP of	US 5273725
		CIP of	US 5384105
AU 9641402	A	Based on	WO 9615987
EP 792247	A1	Based on	WO 9615987

PRIORITY APPLN. INFO: US 1995-429341 19950426; US 1994-341020 19941117; US 1992-891167 19920529; US 1993-153820 19931115

AN 1996-268469 [27] WPIDS
CR 1994-006625 [01]; 1995-074587 [10]; 1995-081529 [11]
AB WO 9615987 A UPAB: 19960823
Prim. values of Ta and Nb in highly fluorinated ore feed materials are sepd. from at least one sec. value of U and Th and from one or more sec. values comprising Sc, Zr, Ti or other non-radioactive metals in a process comprising: (i) contacting (**pro** rata) 1 kg of feed materials with 1-20 l of an aq. digest medium comprising, in a molar ratio of 20-0.5, an acid comprising HNO3 and/or HCl, and a complexing reagent consisting of H3BO3 or ions

from gps. IIa, IIIa, IVA, VA, VIA or VIIA metals, Fe, B, Al or Si, wherein the concns. enable a commercial rate of solubilisation, (ii) carrying out the reaction at 55-85deg. C to solubilise the sec. values without dissolving Ta and Nb, (iii) sepg. solids contg. Ta and Nb from the medium; (iv) contacting the digest liquor with an organic phase to extract U and Th, and (v) sepg. the organic phase to leave a non-radioactive **raffinate**.

Also claimed are processes based on the above wherein; (a) at least one each of Ta and Nb, U and Th, and Sc, Zr and Ti is sepd. from highly fluorinated ore materials which are reacted with a medium contg. H3BO3 and an acid medium of H2SO4, HCl or mixts. thereof in the molar ratio 1:1-10, and (b) U or Th is sepd. from at least one of Ta, Nb, Sc, Zr, Ti and Ti by treating a difficult soluble matrix of highly fluorinated feed comprising an ore thereof or a **prod.**, intermediate or residue from the processing thereof by contacting with a medium contg. H3BO3 and HCl/HNO3/H2SO4.

ADVANTAGE - A significant level of removal of radionuclides is obtd. compared to prior processes based on dissolving tailings or wastes from HF digestion processes in, e.g. sulphuric acid.

Dwg.0/4

ABEQ US 5531970 A UPAB: 19960819

The process for sepg. prim. values of Ta and Nb from at least one of sec. values of U or Th, and from one or more sec. values selected from the gp. consisting of Sc, Zr, Ti or other values of non-radioactive metals, all of the values being contained in highly fluorinated ore feed materials, the process comprises: (a) contacting the feed materials with an aq., acidic, digest medium contg. one or more complexing materials selected from the gp. consisting of H3BO3, or ions of gp. IIA, IIIA, IVA, VA, VIA, or VIIA metals, Fe, B, Al or Si, and an acid component comprising HNO3 or HCl or its mixts, where the ratio of the reaction medium in litres (L) to the feed materials (Kg) on dry basis ranges from about 1/1 to about 20/1, the total concns. of all of the acids being sufficient to solubilise the values at commercially acceptable rates, and where the molar ratio of the acid component to the complexing material ranges from about 20 to about 0.5; (b) maintaining the temp. of the medium between about 55deg. C-85 deg. C; (c) reacting the materials in the medium for a sufficient period to solubilise the major portion of the sec. values and to leave the Ta and Nb values insolubilised in the medium; (d) sepg. the solids contg. the Ta and Nb values from the medium to provide a digest liquor contg. the solubilised sec. values; (e) intimately contacting the liquor with an organic phase to transport at least major portions of the U and Th values in and from the liquor; and (f) sepg. the organic phase from the liquor to form a non-radioactive **raffinate**.

Dwg.4/4

L21 ANSWER 8 OF 17 TOXCENTER COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:149658 TOXCENTER
COPYRIGHT: Copyright 2002 ACS
DOCUMENT NUMBER: CA12422297795Q
TITLE: Nanofiltration for removal of surplus water in dump leaching
AUTHOR(S): Eriksson, Peter K.; Lien, Larry A.; Green, Dennis H.
CORPORATE SOURCE: Membrane Development Specialists, Escondido, CA, USA.
SOURCE: Tailings and Mine Waste '96, Proceedings of the International Conference on Tailings and Mine Waste,

3rd, Fort Collins, Colo., Jan. 16-19, 1996, (1996) pp. 451-7.
CODEN: 62PQA9.
COUNTRY: UNITED STATES
DOCUMENT TYPE: Conference
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 1996:225199
LANGUAGE: English
ENTRY DATE: Entered STN: 20011116
Last Updated on STN: 20020903

AB At a mining site in the USA, dump leaching is used to recover copper. The acid leach soln. percolates through the dump, dissolving copper and other metals, and is collected in a collection pond. Its copper concn. at this stage is about 0.8 g/l. This pregnant leach soln. goes to a copper extn. plant and is then returned (now called the **raffinate**) to the dump for further copper recovery. Water added and removed from the system is mainly from pptn. and natural evapn. resp. The pptn. rate exceeds the evapn. rate. Thus, water has to be purged from the system. The water streams in the system contain higher levels of metals than permitted by the discharge regulations. Presently, a part of the **raffinate** goes through a chem. pptn. system prior to being purged. The cost of this is high. The main cost contributors are sludge disposal, pptn. chems., and labor. Nanofiltration followed by a biomass adsorption unit **produces** a high quality water which meets the discharge regulations. This water can even be recycled as fresh water, for applications where a high silica concn. is tolerated. An addnl. benefit with nanofiltration is that the metals are concd. The copper concn. in the pregnant leach soln. is increased in the nanofiltration unit, which increases the extn. capacity of an existing copper extn. plant. This paper presents the results from a pilot plant study which started at a copper mine in Nov. 1994. Nanofiltration followed by a biomass adsorption unit **produced** water from the pregnant leach soln. which **met** the discharge regulations.

L21 ANSWER 9 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1996:186329 BIOSIS
DOCUMENT NUMBER: PREV199698742458

TITLE: Selective recovery of two enzymes from **Bacillus** subtilis using Aliquat 336 reversed micelles.

AUTHOR(S): Chang, Qing-Long (1); Chen, Jia-Yong
CORPORATE SOURCE: (1) Institute Chemical Metallurgy, Chinese Academy Sciences, P.O. Box 353, Beijing 100080 China

SOURCE: Applied Biochemistry and Biotechnology, (1996) Vol. 56, No. 2, pp. 197-204.
ISSN: 0273-2289.
DOCUMENT TYPE: Article
LANGUAGE: English

AB Selective separation and purification of two enzymes from **Bacillus** subtilis (alpha-amylase and neutral protease) by liquid-liquid extraction using Aliquat 336/isooctane reversed micelles were investigated. After a full forward and backward extraction cycle, alpha-amylase was separated and purified in the stripping solution, and neutral protease was recovered in the **raffinate**.

L21 ANSWER 10 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1992-006770 [01] WPIDS
DOC. NO. NON-CPI: N1992-005267
DOC. NO. CPI: C1992-002839
TITLE: Sepn. of **phenylalanine** from fermentation broth - comprises adsorbing then desorbing with alcohol, water, ketone or ester, at a specified pH.
DERWENT CLASS: A14 A97 B05 D16 E14
INVENTOR(S): GOODMAN, W H; MCCULLOCH, B
PATENT ASSIGNEE(S): (UNVO) UOP
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5071560	A	19911210	(199201)*		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5071560	A	US 1990-631175	19901219

PRIORITY APPLN. INFO: US 1988-260105 19881020; US 1989-380921 19890717; US 1990-631175 19901219
AN 1992-006770 [01] WPIDS
AB US 5071560 A UPAB: 19931006
Sepg. **phenylalanine** (I) from fermentation feed comprising **phenylalanine**, salts, carbohydrates, and amino and organic acids comprises contacting with a hydrophobic, porous synthetic adsorbent having functional gps., with dipole moment of 1.6-2, surface area of 140-450 m2/g, and pore dia. of 80-235 Angstroms and porosity of 0.5-0.55 ml/g comprising macroporous acrylic ester polymer, at pH 4.5-6.5; absorbing (I); removing other feed components from contact with adsorbent as **raffinate**; and desorbing (I) with a desorbent comprising water, alcohol, ketone or ester.
USE - **Phenylalanine** is an essential amino acid used in the synthetic **prodn**. of pharmaceuticals and Aspartame - a non-nutritive sweetener.
0/0

L21 ANSWER 11 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1987-299541 [43] WPIDS
DOC. NO. CPI: C1987-127488
TITLE: **Prodn**. of partly synthetic soft waxes based on montan wax - by esterifying mixt. of 14-24C fatty acids and montan wax with 2-4C diol, acid chromate refining **prod**., and further esterifying.
DERWENT CLASS: D23 G02 H08
INVENTOR(S): BERTHOLD, G; HEISE, D; HELBIG, W; MARX, I; SCHAFER, A
PATENT ASSIGNEE(S): (PETR) VEB PCK SCHWEDT
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DD 246559	A	19870610	(198743)*		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DD 246559	A	DD 1986-287722	19860310

PRIORITY APPLN. INFO: DD 1986-287722 19860310
AN 1987-299541 [43] WPIDS
AB DD 246559 A UPAB: 19930922
Prodn. of partly synthetic soft waxes based on montan wax comprises: (i) partial or complete esterification with 2-4C dihydric alcohols of a mixt. of 50-95 wt.% of a wax-acid-contg. montan wax **raffinate** (hard wax content above 80 wt.%) and 5-50 wt.% 14-24C fatty acids; (ii) oxidative refining with H2SO4 and alkali dichromate or chromic acid at a degree of refining of 5-50 wt.% CrO3 related to the esterified **prod.** mixt.; and (iii) further complete or partial esterification with 2-4C dihydric alcohols in accordance with step (i).
USE/ADVANTAGE - The soft waxes obtd. are useful in mfr. of polishes for shoes and leather. The required criteria w.r.t. colour, consistency, emulsifiability etc. are **met** with materials from domestic (GDR) sources, without using additives such as wool fat, hard paraffin or ozokerite or fatty acid mixts. from palm kernal oil, coconut oil, castor oil etc.
0/0

L21 ANSWER 12 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1987-299540 [43] WPIDS
DOC. NO. CPI: C1987-127487
TITLE: **Prodn.** of partly synthetic soft waxes based on montan wax - by esterifying higher fatty acids and then added montan wax with 2-4C diol, acid chromate refining of the mixed **prod** ., and then esterifying.
DERWENT CLASS: D23 G02 H08
INVENTOR(S): BERTHOLD, G; HEISE, D; HELBIG, W; MARX, I; SCHAFER, A
PATENT ASSIGNEE(S): (PETR) VEB PCK SCHWEDT
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DD 246558	A	19870610	(198743)*		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DD 246558	A	DD 1986-287722	19860310

PRIORITY APPLN. INFO: DD 1986-287721 19860310; DD 1986-287722

19860310
AN 1987-299540 [43] WPIDS
AB DD 246558 A UPAB: 19930922
Prodn. of partly synthetic soft waxes based on montan wax comprises: (i) partial esterification of 5-50 wt.% 14-24C fatty acids with 2-4C dihydric alcohols; (ii) mixing in and esterifying 50-95 wt.% wax-acid-contg. montan wax **raffinate** with hard wax content above 80 wt.%; (iii) oxidative refining with H2SO4 and alkali dichromate or chromic acid at a degree of refining of 5-50 wt.% CrO3 referred to the esterified **prod.** mixt.; and (iv) further complete or partial esterification with 2-4C dihydric alcohols.

USE/ADVANTAGE - The soft waxes obtd. are useful in mfr. of polishes for shoes and leather. The required criteria w.r.t. colour, consistency, emulsifiability etc. are **met** with materials from domestic (GDR) sources, without using additives such as wool fat, hard paraffin or ozokerite or fatty acid mixts. from palm kernal oil, coconut oil, castor oil etc.

In an example 600 kg of 16-18C fatty acids obtd. from domestic natural raw materials was esterified for 30 min. at 90 deg.C with 225 kg butane-1,3-diol. 1870 kg wax-acid-contg. montan wax **raffinate** (more than 80 wt.% hard wax) and a further 90 kg butane-1,3-diol were then added, and the esterification continued for 6 h at about 120 deg.C. The **prod.** was emulsified by stirring for 30 min. at 110-115 deg.C with 2400 l 45% H2SO4. 740 kg Na2Cr2O7 as aq. soln. was added over ca. 45 min. After 3 h. subsequent reaction, the temp. was 125 deg.C. The Cr(III) salt soln. was removed, and the **raffinate** washed with dil. H2SO4. A further 200 kg butane-1,3-diol was added to the **raffinate**, and the mixt. esterified for 3 h under the same conditions as before. The **prod.** was given a final bleaching with 2 vol.% 25% aq. NaClO3 soln.
0/0

L21 ANSWER 13 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 3
ACCESSION NUMBER: 1987:315199 BIOSIS
DOCUMENT NUMBER: BA84:34706
TITLE: THE SEPARATION OF GLUTATHIONE AND **GLUTAMIC ACID** USING A SIMULATED MOVING-BED ADSORBER SYSTEM.
AUTHOR(S): MAKI H; FUKUDA H; MORIKAWA H
CORPORATE SOURCE: ENG. RES. LAB., KANEGAFUCHI CHEM. INDUSTRY CO. LTD., 1-8 MIYAMAE, TAKASAGO, HYOGO 676, JPN.
SOURCE: J FERMENT TECHNOL, (1987) 65 (1), 61-70.
CODEN: JFTED8. ISSN: 0385-6380.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Glutathione (GSH) and **glutamic acid** (**Glu**) were continuously separated using a simulated moving-bed adsorber system. In this system, a specially-designed multi-port rotary valve was used to move the adsorbent particles, and its rotation speed and the liquid flow rate in the adsorber were controlled by a personal computer. Under the optimal conditions for the simulated moving-bed adsorber, both the purity and the yield coefficient of GSH in the **raffinate** stream at a steady state reached around 99%, and the concentration of GSH and the **production** of GSH for the amount of adsorbent used were greater by as much as ten times and

eighteen times than for the conventional batch operation. The adsorption isotherms of GSH and **Glu**, which were non-linear and concentration-dependent, were well expressed using several parameters, and also the courses of GSH and **Glu** concentrations in transient changes to the steady-state condition could be predicted well by the intermittent moving bed model.

L21 ANSWER 14 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1985-129815 [22] WPIDS
DOC. NO. CPI: C1985-056410
TITLE: 2-hydroxy-4-methylthio-butyric acid **prepn** . - by complete hydrolysis of nitrile with mineral acid and solvent extn..
DERWENT CLASS: B05 C03 D13
INVENTOR(S): RUEST, D A; TAKANO, M; WOLF, L R
PATENT ASSIGNEE(S): (MONS) MONSANTO CO
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 143100	A	19850529	(198522)*	EN	53
R: AT BE CH DE FR GB IT LI LU NL SE					
JP 60166661	A	19850829	(198541)		
EP 143100	B	19870805	(198731)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					
DE 3465194	G	19870910	(198737)		
CN 85101573	A	19870110	(198806)		
CA 1269995	A	19900605	(199030)		
JP 04030948	B	19920525	(199225)		16

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 143100	A	EP 1984-870151	19841113
JP 60166661	A	JP 1984-239324	19841113
JP 04030948	B	JP 1984-239324	19841113

FILING DETAILS:

PATENT NO	KIND		PATENT NO
JP 04030948	B	Based on	JP 60166661

PRIORITY APPLN. INFO: US 1983-551231 19831114
AN 1985-129815 [22] WPIDS
AB EP 143100 A UPAB: 19930925

Prepn. of 2-hydroxy -4-methylthiobutyric acid (I) comprises (1) hydrolysis of 2-hydroxy -4-methylthio b-tyronitrile (II) with mineral acid to give an aq. hydrolysate contg. (I) and free from unreacted (II) and from 2-hydroxy -4-methylthio butyramide; (2) without sepn. of solids present, contact of the hydrolysate with a water-immiscible organic solvent in a liquid/liquid extrn. system to give an extract contg. (I). The extrn. conditions are controlled so that the extract and an aq. **raffinate** are the only liq. phases formed on phase sepn. after the extrn.; and (c) recovery of (I) from the extract.

USE/ADVANTAGE - A conc. soln. of (I) having a lighter colour, reduced odour, lower viscosity and better thermal stability than with (I) obtd. by the usual processes is obtd. (I) in soln. can be **produced** with reduced energy costs and overall conversion costs. During recovery of the (I) from the soln. discolouration and oligomerisation are minimised. (I) is a l-methione analogue and is effective for replacing **methionine** as a nutritional additive, esp. in poultry feeds.
0/4

ABEQ EP 143100 B UPAB: 19930925
A process for the **preparation** of 2-hydroxy-4-methylthiobutyric acid comprising the steps of: hydrolysing 2-hydroxy-4-methylthiobutyronitrile with a mineral acid to **produce** an aqueous hydrolysate containing 2-hydroxy-4-methylthiobutyric acid and substantially free of unreacted 2-hydroxy-4-methylthiobutyronitrile and 2-hydroxy-4-methylthiobutyramide; contacting the hydrolysate with a substantially water-immiscible organic solvent in a liquid/liquid extraction system to **produce** an extract comprising said solvent and 2-hydroxy-4-methylthiobutyric acid transferred from said hydrolysate; and recovering said 2-hydroxy-4-methylthiobutyric acid from said extract; characterised in that the hydrolysate is contacted with the organic solvent without prior separation from the hydrolysate solution of any substantial fraction of any solids present therein, and in that the conditions of said extraction are controlled so that the extract and an aqueous **raffinate** are the only liquid phases formed upon phase separation following the extraction.

L21 ANSWER 15 OF 17 TOXCENTER COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:137063 TOXCENTER
COPYRIGHT: Copyright 2002 ACS
DOCUMENT NUMBER: CA10124216390D
TITLE: Immunosuppressant polypeptide fraction
AUTHOR(S): Michael, J. Gabriel; Pesce, Amadeo J.
PATENT INFORMATION: US 4469677 A 4 Sep 1984
SOURCE: (1984) U.S., 8 pp. Cont.-in-part of U.S. 4,338,297. CODEN: USXXAM.
COUNTRY: UNITED STATES
DOCUMENT TYPE: Patent
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 1984:616390
LANGUAGE: English
ENTRY DATE: Entered STN: 20011116
Last Updated on STN: 20011116

AB Immunosuppressant fractions, prepd. by the enzymic digestion of specific allergens, when administered in mammals, effect protection against these allergens without the dangerous possibility of anaphylactic shock. Pollen allergens are prepd. from common ragweed, arch and grass, etc. Thus, defatted short ragweed pollen was mixed with distd. water, stirred for 48 h and the slurry obtained was filtered to yield a whole ragweed pollen aq. ext. Solid (NH4)2SO4 was added to 90% satn. and the mixt. centrifuged. The ppt. was sepd. and dissolved in 0.1 M Tris buffer (pH 7.9) and the soln. was passed through Sephadex G25 sieves. The 1st peak **raffinate** from the column was fraction A which was centrifuged and the supernatant portion lyophilized. The lyophilized fraction was dissolved in 0.1 M NaHCO3 (pH 8.0).

Nagarase [9014-01-1] proteolytic enzyme from **Bacillus** subtilis was dissolved in 0.1 M NaHCO3 and the soln. added to the fraction A (1:100) and incubated. A crude polypeptide-active ragweed pollen immunizing fraction was obtained. The effectiveness of polypeptide-active immunosuppressant was demonstrated in mice.

L21 ANSWER 16 OF 17 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1982-83519E [39] WPIDS
TITLE: Tar base recovery from base-extracted tar distillate - by extraction with aq. buffer soln..
DERWENT CLASS: E13
INVENTOR(S): BELSKY, S E; MATHEW, C T
PATENT ASSIGNEE(S): (ALLC) ALLIED CORP
COUNTRY COUNT: 6
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 4349418	A	19820914	(198239)*		11
DE 3227492	A	19830210	(198307)		
GB 2104510	A	19830309	(198310)		
JP 58026825	A	19830217	(198313)		
ZA 8203239	A	19830303	(198321)		
CA 1173040	A	19840821	(198438)		
GB 2104510	B	19850821	(198534)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
GB 2104510	A	GB 1982-18835	19820630

PRIORITY APPLN. INFO: US 1981-287668 19810728
AN 1982-83519E [39] WPIDS
AB US 4349418 A UPAB: 19930915
Recovery of tar bases from a base-extracted tar distillate (i.e. a 300 deg. C coal tar fraction from which tar acids have been extracted with a base, leaving a **raffinate** comprising methylnaphthalenes, indole and quinoline and/or isoquinoline) is effected by (a) extracting with a buffered aq. salt soln. having a pH of 0.5-3.0 to **produce** an extract contg. (iso)-quinoline and a **raffinate** contg. methylnaphthalenes and indole; (b) recovering indole from the **raffinate**; and (c) recovering (iso)quinoline from the aq. extract.

Also claimed is a method for sepg. a mixt. of methylnaphthalenes and indole, where the mixt. has a b.pt. range not exceeding 300 deg. C. The method comprises extracting the mixt. with ethylene glycol and recovering indole from the extract.

The process is capable of recovering indole (useful in the **prodn.** of **tryptophan** and in fragrances) without causing it to polymerise.

ABEQ GB 2104510 B UPAB: 19930915
A process for the recovery of tar bases from a base-extracted tar distillation fraction which comprises the steps: (a) extracting a base-extracted tar distillation fraction having a boiling point in the range of 215 deg.C to 300 deg.C and containing methylnaphthalene, indole and at least one of quinoline and

isoquinoline with a buffered aqueous salt solution having a pH between 0.5 and 3.0 to **produce** an aqueous extract containing quinoline, isoquinoline or both and **raffinate** containing methylnaphthalene and indole and substantially free of quinoline and isoquinoline, (b) recovering indole from said **raffinate**, and (c) recovering quinoline and/or isoquinoline from said aqueous extract.

L21 ANSWER 17 OF 17 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 74179356 EMBASE
DOCUMENT NUMBER: 1974179356
TITLE: Oily waste disposal by soil cultivation process.
AUTHOR: Kincannon C.B.
CORPORATE SOURCE: United States
SOURCE: ENVIRONM.PROT.TECHNOL.SER./EPA, (1972) R272110/- (115p.).
CODEN: XXXXXB
DOCUMENT TYPE: Journal
FILE SEGMENT: 046 Environmental Health and Pollution Control
LANGUAGE: English

AB Disposal of oily sludges by utilizing soil microorganisms to decompose the oil has been demonstrated at prevailing soil and climatic conditions at Deer Park, Texas. The oil decomposition rate was about 0.5 lbs/ft3 of soil per month without fertilizers and about 1.0 lb/ft3/month when fertilized. The rate of 1.0 lb/ft3/month is about 70 bbls/acre/month using the upper 0.5 foot of soil. Costs of the soil disposal method, including fertilizers, were about $7.00/bbl of oil and $3.00/bbl of sludge containing 33% oil. Major microbiological species active in the soil were members of the genus Arthrobacter, **Corynebacterium**, Flavobacterium, Nocardia, and Pseudomonas. Differences in decomposition rate and microbial species due to hydrocarbon type as present in crude, bunker C, and waxy **raffinate** oils were minimal. Infrared and gas chromatography examinations of oil extracted from fertilized and unfertilized soils showed differences in organic acid contents and boiling ranges. Oil and fertilizer chemicals did not infiltrate vertically into the soil at the test location under prevailing conditions. Rainfall runoff water contained 1) up to 100 ppm extractable oils found to be naphthenic acids and 2) up to 150 mg/l ammonia as N when the nutrients were excessive in the soil.

FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, PHIC, PHIN, TOXCENTER' ENTERED AT 14:48:12 ON 29 OCT 2002)

Author(s)

L22 197 S "LIAW H"?/AU
L23 34 S "EDDINGTON J"?/AU
L24 25554 S "YANG Y"?/AU
L25 9 S "DANCEY R"?/AU
L26 422 S "SWISHER S"?/AU
L27 915 S "MAO W"?/AU
L28 3 S L22 AND L23 AND L24 AND L25 AND L26 AND L27
L29 20 S L22 AND (L23 OR L24 OR L25 OR L26 OR L27)
L30 14 S L23 AND (L24 OR L25 OR L26 OR L27)
L31 39 S L24 AND (L25 OR L26 OR L27)
L32 3 S L25 AND (L26 OR L27)
L33 3 S L26 AND L27
L34 11 S (L22 OR L23 OR L24 OR L25 OR L26 OR L27) AND L1
L35 5 S (L29 OR L30 OR L31) AND L1
L36 11 S L28 OR L32 OR L33 OR L34 OR L35

L37 5 DUP REM L36 (6 DUPLICATES REMOVED)

L37 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2002:256479 HCAPLUS
DOCUMENT NUMBER: 136:278229
TITLE: Escherichia mutants expressing chromosome-inserted thrABC operon from non-native promoter and their use in threonine production
INVENTOR(S): **Liaw, Hungming James**; Bradshaw, Jill S.; **Yang, Yueqin**; **Mao, Weiying**
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026993	A1	20020404	WO 2001-US30558	20010928
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002106800	A1	20020808	US 2001-962303	20010926
AU 2001096415	A5	20020408	AU 2001-96415	20010928

PRIORITY APPLN. INFO.: US 2000-235884P P 20000928
WO 2001-US30558 W 20010928

AB Escherichia coli, contg. a thrABC operon under control of a non-native promoter (such as tac) inserted into the chromosome, and the use of these E. coli strains for the fermentative prodn. of threonine are disclosed. Addnl., the thrA gene may encode a feedback-resistant aspartate kinase-homoserine dehydrogenase, or the E. coli may be mutated to resistance to threonine **raffinate**, borrelidin, or cyclopentanecarboxylic acid. One such recombinant E. coli produced 96.2 g L-threonine/L in fermentor culture (relative to the parent strain which produced 5.1 g/L).

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 2001:101294 HCAPLUS
DOCUMENT NUMBER: 134:144478
TITLE: Preparation and use of novel bacterial strains for the L-lysine fermentation
INVENTOR(S): **Liaw, Hungming J.**; **Eddington, John M.**; **Yang, Yueqin**; **Dancey, Richard**; **Swisher, Stacia**

; **Mao, Weiying**
PATENT ASSIGNEE(S): Archer-Daniels-Midland Company, USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001009306	A2	20010208	WO 2000-US20899	20000801
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1198564	A2	20020424	EP 2000-952348	20000801
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
BR 2000012966	A	20020514	BR 2000-12966	20000801

PRIORITY APPLN. INFO.: US 1999-146350P P 19990802
WO 2000-US20899 W 20000801

AB The invention provides novel microorganisms, prodn. methods and processes for the prodn. of amino acids which are based on the incorporation of amino acid **raffinate** into the fermn. medium. Amino acid **raffinate** refers to a waste stream generated from the ion exchange operation in L-lysine recovery. **Raffinate** contains a large portion of ammonium sulfate , L-lysine, salts and carbohydrates. Incorporation of **raffinate** into a fermn. medium is com. beneficial because it lowers the ingredient costs. When a fermn. medium that contains this **raffinate** is heat sterilized, amino acid derivs. and other compds. that inhibit microbial growth are generated. Mutagenesis of parental bacterial strains and selection of an improved **raffinate**-resistant phenotype enables the isolation of strains with enhanced growth properties that produce larger amts. of amino acid on **raffinate** contg. media. Microorganisms of the invention are produced from amino acid producing parental strains such as Corynebacterium or Brevibacterium, particularly preferred are parental strains that produce L-lysine.

L37 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 1999:250898 HCAPLUS
DOCUMENT NUMBER: 130:301016
TITLE: Studies on extraction of trichlorphon
AUTHOR(S): Feng, Xudong; **Yang, Yiyan**; Qu, Fuping; Dai, Youyuan
CORPORATE SOURCE: Department of Chemical Engineering, Tsinghusa University, Beijing, 100084, Peop. Rep. China
SOURCE: Huanjing Huaxue (1999), 18(2), 141-145
CODEN: HUHUDB; ISSN: 0254-6108

PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Considering the hydrophobicity of trichlorphon, a series of extn. expts. were conducted for trichlorphon with complexing agent or phys. solvent. The results illustrate that the distribution ratio of phys. extn. is small because of trichlorphon's moderate hydrophobicity, adding complexing agent in phys. solvent can improve the distribution ratio. The factors influencing the distribution ratio are discussed. The results illustrate that after phys. extn. the COD value of soln. decreases and its biodegradability increases. The **raffinates** can be treated by biol. degrdn. without diln. It is proved that the combination of displacement by extn. and biol. treatment has great potentiality for treating wastewater contg. non-biodegradable org. contaminant.

L37 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 4
ACCESSION NUMBER: 1995:447096 BIOSIS
DOCUMENT NUMBER: PREV199598461396
TITLE: Chemical complexation-based Technique for the Treatment of phenolic Industrial Effluents.
AUTHOR(S): **Yang, Yiyan**; et al.
CORPORATE SOURCE: Dep. Chem. Eng., Tsinghua Univ., Beijing 100084 China
SOURCE: Huanjing Kexue, (1995) Vol. 16, No. 2, pp. 35-38. ISSN: 0250-3301.
DOCUMENT TYPE: Article
LANGUAGE: Chinese
SUMMARY LANGUAGE: Chinese; English
AB Following the idea of reversible chemical complexation, a study on thermodynamic equilibrium and cross-current flow extraction of various industrial phenolic effluents has been carried out. The new mixed solvents (QH) for this purpose have been developed. The results show that by using this treatment technique the **raffinates** of phenolic effluents can comply with the required disposal standard through only 2-3 stages of cross-current flow extraction. This treatment technique has been used successfully.

L37 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 5
ACCESSION NUMBER: 1996:144439 HCAPLUS
DOCUMENT NUMBER: 124:184488
TITLE: Study on extraction of aniline from industrial effluents by chemical complexation
AUTHOR(S): **Yang, Yiyan**; Su, Haijia; Qin, Wei; Li, Ruili; Dai, Youyuan
CORPORATE SOURCE: Dep. Chemical Engineering, Tsinghua Univ., Beijing, 100084, Peop. Rep. China
SOURCE: Huagong Jinzhan (1995), (2), 24-7, 52
CODEN: HUJIEK; ISSN: 1000-6613
PUBLISHER: Huaxue Gongye Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Study on thermodn. equil. of complexation and cross-current flow extn. of aniline from various industrial effluents has been carried out. A new mixed solvent has been developed. Results show that using this treatment technique **raffinates** with aniline contents satisfactory for disposal can be obtained by only 3 stages

of cross-current flow extn.

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(c) 2002 INIST/CNRS
File 266:FEDRIP 2002/Sep
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File 440:Current Contents Search(R) 1990-2002/Oct 29
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*File 440: Daily alerts are now available.
File 348:EUROPEAN PATENTS 1978-2002/Oct W03
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File 357:Derwent Biotech Res. _1982-2002/Oct W4
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*File 357: File updating has resumed. See HELP NEWS 357.
Alert feature enhanced for multiple files, etc. See HELP ALERT.
File 113:European R&D Database 1997
(c)1997 Reed-Elsevier(UK)Ltd All rts reserv
*File 113: This file is closed (no updates)

Set	Items	Description
S1	1406	RAFFINATE? ?
S2	10	S1 AND (CORYNEBACTER? OR BREVIBACTER? OR COLI OR BACILLUS)
S3	1	S1 AND (B30059 OR B30060 OR B30061 OR B30062 OR B30063 OR B(W)(30059 OR 30060 OR 30061 OR 30062 OR 30063))
S4	184	S1 AND (GLYCINE OR GLY OR ALANINE OR ALA OR METHIONINE OR MET OR PHENYLALANINE OR PHE OR TRYPTOPHAN? OR TRP OR PROLINE OR PRO OR SERINE OR SER OR THREONINE OR THR OR CYSTEINE OR CYS OR TYROSINE OR TYR OR ASPARAGINE OR ASN)
S5	27	S1 AND (GLUTAMINE OR GLN OR ASPARTIC OR ASP OR GLUTAMIC OR GLU OR LYSINE OR LYS OR ARGININE OR ARG OR HISTIDINE OR HIS OR ISOLEUCINE OR ILE OR LEUCINE OR LEU OR VALINE OR VAL)
S6	190	(S4 OR S5) AND (PREP? OR PRODUC? OR PROD? ? OR MANUF?)
S9	5	S6 AND (MUTAGEN? OR MUTAT? OR MUTANT? ? OR POLYMORPH? OR POLY(W)(MORPHIS? OR MORPHIC?))
S10	12	S2 OR S3 OR S9
S11	11	RD (unique items)

- Key terms

>>>No matching display code(s) found in file(s): 65, 113

11/3,AB/1 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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12505452 PASCAL No.: 96-0175732
Selective recovery of two enzymes from *Bacillus"** subtilis using Aliquat 336 reversed micelles
QING-LONG CHANG; JIA-YONG CHEN
Institute of Chemical Metallurgy, Chinese Academy of Sciences, P.O. Box 353, Beijing 100080, China
Journal: Applied biochemistry and biotechnology. Part A : enzyme engineering and biotechnology, 1996, 56 (2) 197-204

Searcher : Shears 308-4994

Language: English
Selective separation and purification of two enzymes from *Bacillus"** subtilis (alpha -amylase and neutral protease) by liquid-liquid extraction using Aliquat 336/isooctane reversed micelles were investigated. After a full forward and backward extraction cycle, alpha -amylase was separated and purified in the stripping solution, and neutral protease was recovered in the *raffinate"**.

11/3,AB/2 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

12391379 PASCAL No.: 96-0038825
Separation and purification of two enzymes from *Bacillus"** subtilis using Aliquat 336 reversed micelles : study of the effect of cosolvent concentration
QING-LONG CHANG; JIA-YONG CHEN
Chinese acad. sci., inst. chemical metallurgy, Beijing 10080, China
Journal: Chemical engineering journal and the biochemical engineering journal, 1995, 59 (3) 303-308
Language: English
Two kinds of alkyl alcohol (n-butanol and n-octanol) at concentrations ranging from 0.4% to 2.0% (v/v) were chosen as the cosolvent for Aliquat 336/isooctane reversed micelles. By performing liquid-liquid extraction with Aliquat 336 reversed micelles, separation and purification of two enzymes (alpha -amylase and neutral protease) from *Bacillus"** subtilis were investigated. It was found that at higher cosolvent concentration (above 0.4% v/v), n-butanol may be a suitable cosolvent for Aliquat 336 reversed micelles. Under this condition, about 90% of the total activity of alpha -amylase in the crude enzyme preparation can be recovered in the stripping solution after one extraction cycle and the enzyme can be purified about 1.4-fold ; meanwhile about 70% of the total activity of neutral protease in the crude enzyme preparation is retrieved into the *raffinate"** with about 4.5-fold purification. At the lower cosolvent concentration range (below 0.4% v/v), however, n-octanol is the better choice. Under this condition, about 85% of the total activity of alpha -amylase can be recovered into the stripping solution and purified by 1.3-fold ; meanwhile about 75% of the total activity of neutral protease is transferred into the *raffinate"** with the enzyme purified by 4.0-fold.

11/3,AB/3 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

07171888 References: 8
TITLE: SELECTIVE RECOVERY OF TWO ENZYMES FROM *BACILLUS"** SUBTILIS USING ALIQUAT 336 REVERSED MICELLES
AUTHOR(S): CHANG QL; CHEN JY
CORPORATE SOURCE: CHINESE ACAD SCI,INST CHEM MET,POB 353/BEIJING 100080//PEOPLES R CHINA/ (Reprint)
PUBLICATION: APPLIED BIOCHEMISTRY AND BIOTECHNOLOGY, 1996, V56, N2 (FEB), P 197-204
GENUINE ARTICLE#: TY095
ISSN: 0273-2289
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE

ABSTRACT: Selective separation and purification of two enzymes from *Bacillus"** subtilis (alpha-amylase and neutral protease) by liquid-liquid extraction using Aliquat 336/isooctane reversed micelles were investigated. After a full forward and backward extraction cycle, alpha-amylase was separated and purified in the stripping solution, and neutral protease was recovered in the *raffinate"**.

11/3,AB/4 (Item 2 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

06942568 References: 16
TITLE: SEPARATION AND PURIFICATION OF TWO ENZYMES FROM *BACILLUS"** SUBTILIS USING ALIQUAT 336 REVERSED MICELLES - STUDY OF THE EFFECT OF COSOLVENT CONCENTRATION
AUTHOR(S): CHANG QL; CHEN JY
CORPORATE SOURCE: CHINESE ACAD SCI,INST CHEM MET,POB 353/BEIJING 100080//PEOPLES R CHINA/ (Reprint)
PUBLICATION: CHEMICAL ENGINEERING JOURNAL AND THE BIOCHEMICAL ENGINEERING JOURNAL, 1995, V59, N3 (NOV), P303-308
GENUINE ARTICLE#: TH240
ISSN: 0923-0467
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE

ABSTRACT: Two kinds of alkyl alcohol (n-butanol and n-octanol) at concentrations ranging from 0.4% to 2.0% (v/v) were chosen as the cosolvent for Aliquat 336/isooctane reversed micelles. By performing liquid-liquid extraction with Aliquat 336 reversed micelles, separation and purification of two enzymes (alpha-amylase and neutral protease) from *Bacillus"** subtilis were investigated. It was found that at higher cosolvent concentration (above 0.4% v/v), n-butanol may be a suitable cosolvent for Aliquat 336 reversed micelles. Under this condition, about 90% of the total activity of alpha-amylase in the crude enzyme preparation can be recovered in the stripping solution after one extraction cycle and the enzyme can be purified about 1.4-fold; meanwhile about 70% of the total activity of neutral protease in the crude enzyme preparation is retrieved into the *raffinate"** with about 4.5-fold purification. At the lower cosolvent concentration range (below 0.4% v/v), however, n-octanol is the better choice. Under this condition, about 85% of the total activity of alpha-amylase can be recovered into the stripping solution and purified by 1.3-fold; meanwhile about 75% of the total activity of neutral protease is transferred into the *raffinate"** with the enzyme purified by 4.0-fold.

11/3,AB/5 (Item 3 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

06614784 References: 12
TITLE: EFFECT OF THE TYPE OF COSOLVENT ON THE EXTRACTION PROCESS FOR SEPARATION AND PURIFICATION OF TWO ENZYMES FROM *BACILLUS"** SUBTILIS USING ALIQUAT 336 REVERSED MICELLES
AUTHOR(S): CHANG QL; CHEN JY
CORPORATE SOURCE: CHINESE ACAD SCI,INST CHEM MET,POB 353/BEIJING 100080//PEOPLES R CHINA/ (Reprint)
PUBLICATION: SEPARATION SCIENCE AND TECHNOLOGY, 1995, V30, N13, P2679-2693
GENUINE ARTICLE#: RL691

ISSN: 0149-6395
LANGUAGE: ENGLISH DOCUMENT TYPE: ARTICLE

ABSTRACT: Seven kinds of alkyl alcohol (n-butanol, n-pentanol, n-hexanol, n-heptanol, n-octanol, n-nonanol, and n-decanol) were chosen as the cosolvent for Aliquat 336/ isooctane reversed micelles. By performing liquid-liquid extraction with Aliquat 336 reversed micelles as the extractant, the separation and purification of two enzymes (alpha-amylase and neutral protease) from *Bacillus"** subtilis were investigated. Experiments revealed that when n-butanol is used as the cosolvent, the two enzymes from *Bacillus"** subtilis can be effectively separated and purified after a full forward and backward extraction cycle. alpha-Amylase was separated in the stripping solution with about 85% of its total activity recovered and purified about 1.6-fold. Neutral protease was separated in the *raffinate"** with about 80% of its total activity recovered and purified about 3.5-fold. For the other six alcohols used as the cosolvent for Aliquat 336/isooctane reversed micelles, separation was not achieved.

11/3,AB/6 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01352603
Method for enzymatically hydrolysing mixtures of isomaltulose and trehalulose
Verfahren zur enzymatischen Hydrolyse von Mischungen aus Isomaltulose und Trehalulose
Procede pour l'hydrolyse enzymatique de melanges de isomaltulose et trehalulose
PATENT ASSIGNEE:
CERESTAR HOLDING B.V., (1059413), Nijverheidsstraat 1 P.O. Box 9, 4551 LA Sas Van Gent, (NL), (Applicant designated States: all)
INVENTOR:
Vercauteren, Ronny Leontina Marcel, Bergstraat 29, 9120 Beveren, (BE)
NGuyen, Van Sau, Rue Guillaume Lekeu 46, 1070 Brussels, (BE)
Heylen, An Amanda Jules, Nieuwe Rolloweg 66, 1800 Vilvoorde, (BE)
LEGAL REPRESENTATIVE:
Eastwood, Simon Christopher et al (80593), Stevens Hewlett & Perkins 1 St Augustine's Place, Bristol BS1 4UD, (GB)
PATENT (CC, No, Kind, Date): EP 1153930 A1 011114 (Basic)
APPLICATION (CC, No, Date): EP 2001304284 010514;
PRIORITY (CC, No, Date): GB 11468 000513
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: C07H-003/00; C12P-019/16; C12P-019/02

ABSTRACT EP 1153930 A1
The present invention discloses a method for converting enzymatically a mixture comprising isomaltulose and trehalulose into a syrup containing more than 10% w/w, 25% w/w or 40% w/w of glucose and fructose. The enzyme or combination of enzymes is applied in batch or in immobilised form.
ABSTRACT WORD COUNT: 47

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200146	633
SPEC A	(English)	200146	3499
Total word count - document A			4132
Total word count - document B			0
Total word count - documents A + B			4132

11/3,AB/7 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00539894
Adsorption-desorption separation process
Adsorption-Desorption Trennverfahren
Procede de separation par adsorption-desorption
PATENT ASSIGNEE:
WYLIE INVENTIONS, INC., (1502500), 5907 Bayway, Drice Bay Suite, Baytown, Texas 77520, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
Wylie, Roger, 5907 Bayway, Drice Bay Suite, Baytown, Texas 77520, (US)
LEGAL REPRESENTATIVE:
Jones, William (32475), Willow Lane House Willow Lane, Norwich Norfolk, NR2 1EU, (GB)
PATENT (CC, No, Kind, Date): EP 569631 A1 931118 (Basic)
EP 569631 B1 971008
APPLICATION (CC, No, Date): EP 92304224 920511;
PRIORITY (CC, No, Date): EP 92304224 920511
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: C10G-061/06; C10G-025/03;
ABSTRACT EP 569631 A1
An improved adsorption-desorption process is disclosed for separating low octane components from field natural gasoline and virgin naphthas. The low octane materials may be further separated into chemical feed stocks, fluid catalytic cracking feed stocks, steam active reforming feed stocks, paraffinic solvents, and diesel and jet fuel blend stocks by conventional fractionation and/or solvent extraction processes. The remaining higher octane materials make excellent reformer feed and/or gasoline blend stocks.
ABSTRACT WORD COUNT: 71

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9710W1	1164
CLAIMS B	(German)	9710W1	1173
CLAIMS B	(French)	9710W1	1372
SPEC B	(English)	9710W1	6873
Total word count - document A			0
Total word count - document B			10582
Total word count - documents A + B			10582

11/3,AB/8 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00480209
Non-carcinogenic light lubricants and a process for *producing"** same.
Kein Carcinogen enthaltende Leichtschmiermittel und Verfahren zu ihrer Herstellung.
Lubrifiants legers ne contenant pas de carcinogenes et procede de *preparation"** de ceux-ci.
PATENT ASSIGNEE:
MOBIL OIL CORPORATION, (814271), 3225 Gallows Road, Fairfax, Virginia 22037-0001, (US), (applicant designated states: BE;DE;FR;GB;IT;NL)
INVENTOR:
Cox, George Elton, 136 Springhill Road, Skillman, New Jersey 08558, (US)
Cruzan, George, RD3 Box 373, Ringoes, New Jersey 08551, (US)
Mackerer, Carl Robert, 5 Blue Spruce Drive, Pennington, New Jersey 08534, (US)
Yang, Joseph J., 16 Stockade Road, Warren, New Jersey 07060, (US)
LEGAL REPRESENTATIVE:
Colmer, Stephen Gary et al (29513), Mobil Services Company Limited Patent Department Mobil House 50-60 Victoria Street, London SW1E 6QB, (GB)
PATENT (CC, No, Kind, Date): EP 497024 A1 920805 (Basic)
EP 497024 B1 940504
APPLICATION (CC, No, Date): EP 91300828 910201;
PRIORITY (CC, No, Date): EP 91300828 910201
DESIGNATED STATES: BE; DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: C10M-101/02; C10M-171/00;

ABSTRACT EP 497024 A1
A substantially non-carcinogenic light lubricant and a process for its *production"**. The process comprises the step of blending an effective amount of a substantially non-tumorigenic vacuum distilled hydrocarbon oil of lubricating viscosity with a tumorigenic atmospheric distilled light hydrocarbon oil, the tumorigenic light hydrocarbon oil having an initial boiling point of at least 250(degree)F., wherein the resultant blend is substantially non-carcinogenic and of lubricating viscosity.
ABSTRACT WORD COUNT: 67

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	261
CLAIMS B	(German)	EPBBF1	236
CLAIMS B	(French)	EPBBF1	345
SPEC B	(English)	EPBBF1	3137
Total word count - document A			0
Total word count - document B			3979
Total word count - documents A + B			3979

11/3,AB/9 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00182659
Enzymes.
Enzyme.
Enzymes.
PATENT ASSIGNEE:
IMPERIAL CHEMICAL INDUSTRIES PLC, (200780), Imperial Chemical House,

Millbank, London SW1P 3JF, (GB), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Taylor, Stephen Colin, 4 Beckside Mews Staindrop, Darlington Co. Durham, (GB)
LEGAL REPRESENTATIVE:
Locke, Timothy John et al (33161), ICI Group Patents Services Dept. PO Box 6 Shire Park Bessemer Road, Welwyn Garden City Herts, AL7 1HD, (GB)
PATENT (CC, No, Kind, Date): EP 179603 A2 860430 (Basic)
EP 179603 A3 880113
EP 179603 B1 930324
APPLICATION (CC, No, Date): EP 85307346 851014;
PRIORITY (CC, No, Date): GB 8427032 841025; GB 8431923 841218
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C12N-009/14; C12P-007/42; C12P-007/56; C12P-041/00; C12N-001/20; C12N-001/20; C12R-001/01; C12R-001/19; C12R-001/38; C12R-001/125

ABSTRACT EP 179603 A2
Enzymes.
An enzyme composition comprising a D-2-haloalkanoid acid halidohydrolase, bacteria containing said enzyme, a process for the *preparation"** of said enzyme as a cell-free composition and a process in which the enzyme is used to increase the concentration of the L-enantiomer in a mixture of the D- and L- enantiomers of a 2-haloalkanoic acid. Preferably the 2-haloalkanoic acid is 2-bromo- or 2-chloro-propionic acid and the process for increasing the concentration is carried out under anaerobic conditions.
ABSTRACT WORD COUNT: 78

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	765
CLAIMS B	(German)	EPBBF1	704
CLAIMS B	(French)	EPBBF1	793
SPEC B	(English)	EPBBF1	6148
Total word count - document A			0
Total word count - document B			8410
Total word count - documents A + B			8410

11/3,AB/10 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotech Res.

0290732 DBR Accession No.: 2002-12579 PATENT
New Escherichia *Coli"** strains which overproduce L-*threonine"** and processes for *producing"** L-*threonine"** by fermentation - bacterium strain improvement for amino acid *production"**
AUTHOR: LIAW H J; BRADSHAW J S; YANG Y; MAO W
PATENT ASSIGNEE: LIAW H J; BRADSHAW J S; YANG Y; MAO W 2002
PATENT NUMBER: WO 200226993 PATENT DATE: 20020404 WPI ACCESSION NO.: 2002-340018 (200237)
PRIORITY APPLIC. NO.: US 235884 APPLIC. DATE: 20000928
NATIONAL APPLIC. NO.: WO 2001US30558 APPLIC. DATE: 20010928
LANGUAGE: English
ABSTRACT: DERWENT ABSTRACT: NOVELTY - Escherichia *coli"** strain

comprising at least one chromosomally integrated *threonine"** operon operably linked to a non-native promoter, where the strain *produced"** 95-150 g/L of L-*threonine"** by 48 hours of growth in culture and is not strain KY10935, ADM TH1.2 or ADM Kat13, is new. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: (a) an E. *coli"** strain having enhanced L-*threonine"** *production"** which is resistant to cyclopentanecarboxylic acid; (b) an E. *coli"** strain resistant to *threonine"** *raffinate"** and *produces"** 95-150 g/L of L-*threonine"** by 48 hours of growth in culture; (c) *production"** of the E. *coli"** strains; and (d) *production"** of L-*threonine"** by culturing the E. *coli"** strains. WIDER DISCLOSURE - Bacteria may be optimized for *production"** of other amino acids, e.g. L-*isoleucine"**. BIOTECHNOLOGY - *Preparation"**: A process for *producing"** an E. *coli"** strain *producing"** 95-150 g/L of L-*threonine"** by 48 hours of growth in culture comprises: (a) inserting into the chromosome of an E. *coli"** at least 1 *threonine"** operon operably linked to a non-native promoter to *produce"** a parent strain; and (b) performing at least 1 cycle of *mutagenesis"** on the parent strain, followed by screening the *mutagenized"** cells to identify E. *coli"** which *produce"** 95-150 g/L of L-*threonine"** by 48 hours of growth in culture. *Mutagenesis"** is performed using an alkylating agent, intercalating agent, or ultraviolet (UV) light. Preferably 2 or 3 *threonine"** operons are inserted into the chromosome of the E. *coli"** . The non native promoter is the tac promoter, lac promoter, *trp"** promoter, lpp promoter, PL promoter or PR promoter. The *threonine"** operon may contain a gene that encodes a feedback-resistant aspartate kinase-*homoserine"** dehydrogenase. Suitable operons may be obtained from the E. *coli"** strain deposited as American Type Culture Collection (ATCC) Deposit No. 21277. The *mutagenized"** cells may be screened to identify E. *coli"** which are resistant to *threonine"** *raffinate"** , borrelidin and/or cyclopentanecarboxylic acid. Preferred Strain: The strain preferably *produces"** 110-120 g/L of L-*threonine"** by about 48 hours of growth in culture. USE - The bacterial strains are useful in fermentation processes for *production"** of amino acids, particularly L-*threonine"**. ADVANTAGE - The E. *coli"** strains *produce"** L-*threonine"** in high amounts and yields. EXAMPLE - The L-*threonine"** *production"** of Escherichia *coli"** strains was determined in fermenter fermentation. Strain ADM TH25.79 (NRRL B 30319) (a TRF *mutant"** of ADM TH1.2 which was developed from ADMK at 13 (NRRL B-21593)) *produced"** 117.3 g/L *threonine"** (37.4% yield). (92 pages)

11/3,AB/11 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotech Res.

0267608 DBR Accession No.: 2001-07362 PATENT
*Production"** of an improved *raffinate"**-resistant, amino acid-*producing"** bacterial strain, e.g. a *Corynebacterium"** strain by *mutagenesis"** - L-*lysine"** *production"** from *mutated"** *Brevibacterium"** sp.
AUTHOR: Liaw H J; Eddington J M; Yang Y; Dancey R; Swisher S; Mao W
CORPORATE SOURCE: Decatur, IL, USA.
PATENT ASSIGNEE: Archer-Daniels-Midland-Company 2001
PATENT NUMBER: WO 200109306 PATENT DATE: 20010208 WPI ACCESSION NO.: 2001-168704 (2017)

PRIORITY APPLIC. NO.: US 146350 APPLIC. DATE: 19990802
NATIONAL APPLIC. NO.: WO 2000US20899 APPLIC. DATE: 20000801
LANGUAGE: English
ABSTRACT: A new method for the *production"** of an improved *raffinate"** -resistant, amino acid-*producing"** bacterial strain-B is claimed. Also claimed is: a bacterial strain-B *produced"** by the above method; a *Corynebacterium"** sp. strain and a *Brevibacterium"** sp. strain *producing"** at least 10 g/l L-*lysine"** in 24 hr; an L-*lysine"** *producing"** strain, selected from NRRL *B"**-*30059"**, NRRL *B"**-*30060"**, NRRL *B"**-*30061"**, NRRL *B"**-*30062"**, NRRL *B"**-*30063"** or their *mutant"** and; a method for the *production"** of an amino acid. In an example, *lysine"**-*producing"** strains, T125, L58.23 and 96T1 16 were subjected to *mutagenesis"** by culturing the bacterial cells to mid-log phase in medium-B, pelleted and resuspended in 2 ml TM buffer and mixed with 50 ml of a 5 mg/l solution of N'-nitro-N-nitrosoguanidine then incubated at 30 deg for 30 min. After incubation, 10 ml TM buffer was added and pelleted and resuspended in phosphate buffer then plated on medium-A and incubated at 30 deg for 4-6 days. Colonies growing on medium-A were picked and tested for improved potential to *produce"** L-*lysine"** from dextrose in shaker flasks and fermentors. (29pp)

Set	Items	Description
S15	181	AU=(LIAW, H? OR LIAW H?)
S16	19	AU=(EDDINGTON, J? OR EDDINGTON J?)
S17	15269	AU=(YANG, Y? OR YANG Y?)
S18	10	AU=(DANCEY R? OR DANCEY, R?)
S19	209	AU=(SWISHER, S? OR SWISHER S?)
S20	657	AU=(MAO, W? OR MAO W?)
S21	2	S15 AND S16 AND S17 AND S18 AND S19 AND S20
S22	10	S15 AND (S16 OR S17 OR S18 OR S19 OR S20)
S23	6	S16 AND (S17 OR S18 OR S19 OR S20)
S24	94	S17 AND (S18 OR S19 OR S20)
S25	2	S18 AND (S19 OR S20)
S26	2	S19 AND S20
S27	2	(S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S24) AND S1
S28	8	(S21 OR S22 OR S23 OR S25 OR S26 OR S27) NOT S10
S29	8	RD (unique items)

- Author(s)

>>>No matching display code(s) found in file(s): 65, 113

29/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01431781
i ESCHERICHIA COLI /i STRAINS WHICH OVER-PRODUCE L-THREONINE AND PROCESSES FOR THE PRODUCTION OF L-THREONINE BY FERMENTATION
STAMM VON ESCHERICHIA COLI UBERPRODUZIEREND L-THREONINE, UND VERFAHREN ZUR HERSTELLUNG VON L-THREONININEN DURCH FERMENTATION
SOUCHES D' I ESCHERICHIA COLI /I SUR-PRODUISANT DE LA L-THREONINE ET PROCEDE DE PRODUCTION DE L-THREONINE PAR FERMENTATION
PATENT ASSIGNEE:
Liaw, Hungming J., (2980890), 1013 Galen Drive, Champaign, IL 61821, (US), (Applicant designated States: all)
Bradshaw, Jill S., (4073230), 1605 Mitchell, Mohomet, IL 61853, (US), (Applicant designated States: all)
Yang, Yueqin, (4073260), 4661 Willow Brook Lane, Decatur, IL 62521, (US), (Applicant designated States: all)

Mao, Weiying, (4073270), 4661 Willow Brook Lane, Decatur, IL 62521, (US), (Applicant designated States: all)
INVENTOR:
*Liaw, Hungming J."**, 1013 Galen Drive, Champaign, IL 61821, (US)
Bradshaw, Jill S., 1605 Mitchell, Mohomet, IL 61853, (US)
*Yang, Yueqin"**, 4661 Willow Brook Lane, Decatur, IL 62521, (US)
*Mao, Weiying"**, 4661 Willow Brook Lane, Decatur, IL 62521, (US
PATENT (CC, No, Kind, Date):
WO 200226993 020404
APPLICATION (CC, No, Date): EP 2001977282 010928; WO 2001US30558 010928
PRIORITY (CC, No, Date): US 235884 P 000928
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: C12N-015/52; C12P-013/08
LANGUAGE (Publication,Procedural,Application): English; English; English

29/3,AB/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01370382
BACTERIAL STRAINS AND FERMENTATION PROCESSES FOR THE PRODUCTION OF 2-KETO-L-GULONIC ACID
BAKTERIENSTAMME UND FERMENTATIONSVERFAHREN ZUR HERSTELLUNG VON 2-KETO-L-GULONSAURE
SOUCHES BACTERIENNES ET PROCEDES DE FERMENTATION UTILISES POUR PRODUIRE DE L'ACIDE 2-CETO-L-GULONIQUE
PATENT ASSIGNEE:
Archer-Daniels-Midland Company, (2860971), 4666 Faries Parkway, Decatur, Illinois 62525, (US), (Applicant designated States: all)
INVENTOR:
*LIAW, Hungming, J."**, 1013 Galen Drive, Champaign, IL 61821, (US)
KOWZIC, Robert, L., Jr., 2429 Brooks Drive, Decatur, IL 62521, (US)
*EDDINGTON, John, M."**, 36 Norwood Drive, Decatur, IL 62521, (US)
*YANG, Yuequin"**, 4661 Willow Brook Land, Decatur, IL 62521, (US
PATENT (CC, No, Kind, Date):
WO 200183798 011108
APPLICATION (CC, No, Date): EP 2000928775 000504; WO 2000US12037 000504
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: C12P-007/60; C12N-001/20
LANGUAGE (Publication,Procedural,Application): English; English; English

29/3,AB/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01263584
MUTANT BACTERIAL STRAINS L-LYSINE PRODUCTION
BAKTERIENMUTANTEN ZUR L-LYSINHERSTELLUNG
SOUCHES BACTERIENNES, MUTANTES POUR LA PRODUCTION DE L-LYSINE
PATENT ASSIGNEE:
Archer-Daniels-Midland Company, (2860971), 4666 Faries Parkway, Decatur, Illinois 62525, (US), (Applicant designated States: all)

INVENTOR:
*LIAW, Hungming, J."**, 1013 Galen Drive, Champaign, IL 61821, (US)
*EDDINGTON, John, M."**, 36 Norwood Drive, Decatur, IL 62521, (US)
*YANG, Yueqin"**, 4661 Willow Brook Lane, Decatur, IL 62521, (US)
*DANCEY, Richard"**, 1235 Nolan Avenue, Mt. Zion, IL 62549, (US)
*SWISHER, Stacia"**, 1643 E. Hinsdale, Decatur, IL 62526, (US)
*MAO, Weiying"**, 4661 Willow Brook Lane, Decatur, IL 62521, (US
LEGAL REPRESENTATIVE:
Schlich, George William et al (75591), Mathys & Squire European Patent Attorneys, 100 Gray's Inn Road, London WC1X 8AL, (GB)
PATENT (CC, No, Kind, Date): EP 1198564 A2 020424 (Basic)
WO 200109306 010208
APPLICATION (CC, No, Date): EP 2000952348 000801; WO 2000US20899 000801
PRIORITY (CC, No, Date): US 146350 P 990802
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: C12N-015/01; C12N-001/20; C12P-013/04; C12P-013/08; C12N-001/20; C12R-1:15; C12R-1:13; C12R-1:19
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English

29/3,AB/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00949688
NOVEL BACTERIAL STRAINS AND USE THEREOF IN FERMENTATION PROCESSES FOR 2-KETO-L-GULONIC ACID PRODUCTION
BAKTERIENSTAMM UND DESSEN VERWENDUNG IN EINEM FERMENTATIONSVERFAHEN ZUR HERSTELLUNG VON 2-KETO-L GULONSAURE
NOUVELLES SOUCHES BACTERIENNES ET LEUR UTILISATION DANS DES PROCEDES DE FERMENTATION DESTINES A LA PRODUCTION D'ACIDE 2-CETO-L-GULONIQUE
PATENT ASSIGNEE:
ARCHER DANIELS MIDLAND COMPANY, (1350591), 4666 Faries Parkway, Decatur, Illinois 62526, (US), (Applicant designated States: all)
INVENTOR:
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LEGAL REPRESENTATIVE:
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PATENT (CC, No, Kind, Date): EP 939831 A1 990908 (Basic)
WO 9817819 980430
APPLICATION (CC, No, Date): EP 97911839 971023; WO 97US19022 971023
PRIORITY (CC, No, Date): US 740066 961024
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; RO; SI
INTERNATIONAL PATENT CLASS: C12P-007/60; C12N-001/20; C12N-001/20; C12R-1:01
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English

29/3,AB/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00929728
NOVEL STRAINS OF -i(ESCHERICHIA COLI), METHODS OF PREPARING THE SAME AND USE THEREOF IN FERMENTATION PROCESSES FOR L-THREONINE PRODUCTION
NEUE ESCHERICHIA COLI-STAEMME, METHODEN ZU DEREN HERSTELLUNG UND BENUTZUNG DIESER IN FERMENTATIONSPROZESSEN ZUR PRODUKTION VON L-THREONIN
NOUVELLES SOUCHES D'-i(ESCHERICHIA COLI), PROCEDES DE PREPARATION ASSOCIES, ET LEUR UTILISATION DANS DES PROCESSUS DE FERMENTATION DESTINES A LA PRODUCTION DE L
PATENT ASSIGNEE:
ARCHER DANIELS MIDLAND COMPANY, (1350591), 4666 Faries Parkway, Decatur, Illinois 62526, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
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*SWISHER, Stacia, L."**, 1643 E. Hinsdale Avenue, Decatur, IL 62526, (US)
*LIAW, Hungming, James"**, 1013 Galen Drive, Champaign, IL 61821, (US)
HANKE, Paul, D., 309 North Abbey, Urbana, IL 61801, (US)
BINDER, Thomas, P., 2323 West Packard, Decatur, IL 62522, (US
LEGAL REPRESENTATIVE:
Lee, Nicholas John et al (76842), Kilburn & Strode, 20 Red Lion Street, London WC1R 4PJ, (GB)
PATENT (CC, No, Kind, Date): EP 917578 A1 990526 (Basic)
WO 9804715 980205
APPLICATION (CC, No, Date): EP 97936291 970730; WO 97US13359 970730
PRIORITY (CC, No, Date): US 22407 P 960730
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: C12N-015/52; C12P-013/08; C12N-015/70; C12N-015/90; C12N-001/21; C12N-001/21; C12R-001/19
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English

29/3,AB/6 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotech Res.

0290131 DBR Accession No.: 2002-11978 PATENT
Novel bacterial strains belonging to genera Gluconobacter, Ketogulonogenium and Bacillus useful for producing 2-keto-L-gulonic acid from D-sorbitol via L-sorbose by fermentation - vector-mediated gene transfer and expression in Gluconobacter sp., Ketogulonogenium sp. and Bacillus sp. for strain improvement
AUTHOR: *LIAW H J"**; KOWZIC R L; *EDDINGTON J M"**; *YANG Y"**
PATENT ASSIGNEE: ARCHER-DANIELS MIDLAND CO 2001
PATENT NUMBER: WO 200183798 PATENT DATE: 20011108 WPI ACCESSION NO.: 2002-240308 (200229)
PRIORITY APPLIC. NO.: WO 200012037 APPLIC. DATE: 20000504
NATIONAL APPLIC. NO.: WO 2000US12037 APPLIC. DATE: 20000504
LANGUAGE: English
ABSTRACT: DERWENT ABSTRACT: NOVELTY - A biologically pure culture (I) of

microorganism strain comprising the identifying characteristics of a strain such as Ketogulonogenium robustum NRRL B-30265 (ADM 178-49) (M1), Gluconobacter oxydans NRRL B-30266 (ADM 205-95) (M2), Bacillus cereus NRRL B-30267 (ADM C12B) (M3), B.cereus NRRL B-30268 (ADM 1A9) (M4), or mutants derived from theses strains, is new. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) a microorganism culture system (II) comprising a mixture formed from a biologically pure culture of a microorganism strain having the identifying characteristics of (M2) and a biologically pure culture of a microorganism strain having the identifying characteristics of (M1), where the culture system is capable of producing at least about 40 g/l of 2-keto-L-gulonic acid (2-KLG) from D-sorbitol; and (2) transforming a strain by inserting a vector into the strain. BIOTECHNOLOGY - Preferred Culture: (I) comprises a marker gene which comprises a nucleotide sequence which operatively directs synthesis of a protein conferring antibiotic resistance in a host cell. Preferably, the marker gene provides resistance to antibiotics such as ampicillin, chloramphenicol, erythromycin, kanamycin, spectinomycin, streptomycin or tetracycline. The vector further comprises an exogenous terminator of transcription, an exogenous promoter, and a discrete series of restriction endonuclease recognition sites, the series being between the promoter and the terminator. USE - (I) having the identifying characteristics of (M1) or its mutant, is useful for producing 2-KLG which involves culturing (I) having the identifying characteristics of (M1) or its mutant, in mixed culture with a microorganism strain capable of converting D-sorbitol to L-sorbose in a medium containing D-sorbitol such that the D-sorbitol is converted to 2-KLG; and recovering the 2-KLG. The microorganism strain capable of converting a D-sorbitol to L-sorbose is preferably G.oxydans ATCC 621 or its mutant derived from the strain. The mutant derived from G.oxydans ATCC 621 is (M2) which is selected from media containing at least 100 g/l of L-sorbose. The microorganism having the identifying characteristics of (M1) preferably corresponds to (M1), and the microorganism strain capable of converting D-sorbitol to L-sorbitol is (M2). The mixed culture is capable of producing at least 40 g/l of 2-KLG from D-sorbitol. The 2-KLG is recovered as its salt from the medium and the recovered salt is converted to ascorbic acid or its salt. The microorganisms are cultured at a pH of about 5-9, and at a temperature of 5-36 degreesC. D-sorbitol is provided in the medium at a concentration of 20-250 g/l of medium. The inoculum ratio of (I) having identifying characteristics of (M1) to the L-sorbose producing strain is about 10:1 to 1:10. Preferably, the mixed culture comprises at least one additional microorganism strain of the genus Aureobacterium, Corynebacterium, Bacillus, Brevibacterium, Pseudomonas, Proteus, Enterobacter, Citrobacter, Erwinia, Xanthomonas and Flavobacterium, preferably B.cereus strain NRRL B-30267 or its mutant derived from the strain, where the mutant is selected to be incapable of producing the spores and is most preferably NRRL B-30268. The medium further comprises a soybean product such as soyflour, soyprotein and its hydrolysate, soy peptone, soluble soy isolates, soy whey or soy molasses. The products such as soluble soy isolates or soy whey are derived from the processing of soybeans (all claimed). ADVANTAGE - The method involving (M1) and (M2) for producing 2-keto-L-gulonic acid (2-KLG) is simpler, having shorter fermentation with lower cost and higher yield for the production of 2-KLG from D-sorbitol in comparison with the conventional methods. EXAMPLE - Mutagenesis and isolation of L-sorbose producing mutants from Gluconobacter oxydans ATCC 621 for single stage fermentation of 2-keto-L-gulonic acid (2-KLG), was carried

out as follows. Bacterial cultures were grown to log phase in PYM medium (D-mannitol 50 g/l, glycerol 5 g/l, peptone 10 g/l, yeast extract 10 g/l, pH 7.0), then pelleted by centrifugation and resuspended in 2 ml of TM buffer Tris HCl 6.0 g/l, maleic acid 5.8 g/l, (NH4)2SO4 1.0 g/l, Ca(NO3)2 5.0 mg/l, MgSO4.7H2O 0.1 g/l, FeSO4.7H2O 0.25 mg/l, and autoclaved. The 2 ml cell suspension was mixed with 0.04 ml of 5.0 mg/ml solution of N'-nitro-nitrosoguanidine (NTG), then incubated at 30 degreesC for 30 minutes. After incubation, 10 ml of TM buffer was added to each tube, then the cells were pelleted, washed twice in TM buffer, then resuspended in 4.0 ml of 0.1 M NaH2PO4 buffer. The washed cell suspensions were further diluted in phosphate buffer, and aliquots were spread on plates of PYM medium, TBC medium. Difco Tryptone 5 g/l, Yeast extract 3 g/l, K2HPO4 7 g/l, KH2PO4 3 g/l, MgSO4 0.1 g/l, NaCl 5 g/l, D-sorbitol 10 g/l, tetrazolium blue chloride 0.03 g/l, agar 15 g/l, pH 6.8 or FM10 agar medium (corn steep liquor 2% (dry solid), ADM soy soluble 0.6% (dry solid), L-sorbose 150-200 g/l, CaCO3 50 g/l agar, 15 g/l, pH 7.2). These plates were incubated at 30 degreesC for 2-3 days. Colonies were then counted or isolated from these plates. Relative to unmutagenized control cells, the kill percentage from NTG treatment was 60-80%. Strain ADM 205-95 (NRRL B-30266), a mutant derived from ATCC 621 was isolated from FM10 agar medium. Subsequent tests of this strain were carried out in the shaker flask fermentation. One loopful culture of ADM 205-95 was inoculated into SM7 seed medium (Quest N-Z Soy 10 g/l, D-sorbitol 10 g/l, D-mannitol 20 g/l, corn steep liquor 2% dry solid, niacinamide 0.005 g/l, thiamine 0.3 g/l, pantothenic acid 0.4 g/l, p-aminobenzoic acid 0.2 g/l, pH 6.7), and incubated. Two ml of seed contents were used to inoculate 25 ml of fermentation medium FM11 (as described in FM10 medium except L-sorbose was replaced with 150-170 g/l D-sorbitol) in a 250 ml baffled shaker flask, and flasks were shaken for 24 hours at 30 degreesC and 240 rpm. The production of L-sorbose was assayed by high performance liquid chromatography (HPLC). Strain ADM 205-95 produced 145.8 and 153.7 g/l of L-sorbose with 91.6 and 93.4% of yield from D-sorbitol in these tests. Mutagenesis and isolation of 2-KLG producing mutants from Ketogulonogenium robustum ADM-X6L (NRRL B-21627) for the single stage fermentation of 2-KLG was carried out as follows. Bacterial cultures were grown in PYM medium to mid-log phase, then pelleted by centrifugation and resuspended in 2 ml of TM buffer. The 2 ml cell suspension was mixed with 60 microL of a 5.0 mg/ml solution of NTG, then incubated at 30 degreesC for 30 minutes. After incubation, 10 ml of TM buffer was added to each tube, then the cells were pelleted, washed twice in TM buffer. The cell suspension was further diluted in phosphate buffer, and aliquots were spread on plates of CM6 agar medium or CM6 medium containing 16-18% L-sorbose (CM6 medium contained Difco Bacto Soytone 10 g/l, D-sorbitol 5 g/l, D-mannitol 10 g/l, malt extract 5 g/l, yeast extract 5 g/l, K2HPO4 1 g/l, KH2PO4 9 g/l, NaCl 5 g/l, L-sorbose 160-180 g/l added separately after autoclaving). Plates were then incubated at 30 degreesC for 3 to 5 days. Colonies were counted from CM6 plates. Relative to control cells without NTG treatment, the killing percentage of NTG mutagenized cells was 32%. Colonies growing on CM6-18% L-sorbose plates were picked randomly and then screened for improved 2-KLG production from L-sorbose. One loopful culture of ADM 178-49 (NRRL B-30265) was inoculated into SM7 seed medium, and incubated at 30 degreesC and 240 rpm shaker for 22 hours. Two ml of seed contents were used to inoculate a baffled shaker flask containing 25 ml of fermentation medium FM10 and about 130 g/l of L-sorbose, and flasks were shaken for 72 hours at 30 degreesC and 240 rpm. Strain ADM 178-49 produced 62.6-67.8 g/l of 2-KLG with about 100% of yield from

L-sorbose in these tests.(44 pages)

29/3,AB/7 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotech Res.

0225718 DBR Accession No.: 98-07315 PATENT
Production of 2-keto-L-gulonic acid from L-sorbose using NRRL B-21627 - ascorbic acid intermediate produced by culturing new bacterium
AUTHOR: Stoddard S F; *Liaw H J"**; *Eddington J M"**; *Yang Y"**
CORPORATE SOURCE: Decatur, IL, USA.
PATENT ASSIGNEE: Archer-Daniels-Midland 1998
PATENT NUMBER: WO 9817819 PATENT DATE: 980430 WPI ACCESSION NO.: 98-261512 (9823)
PRIORITY APPLIC. NO.: US 740066 APPLIC. DATE: 961024
NATIONAL APPLIC. NO.: WO 97US19022 APPLIC. DATE: 971023
LANGUAGE: English
ABSTRACT: A new method for the production of 2-keto-L-gulonic acid (KGA, an ascorbic acid intermediate) from L-sorbose involves: culturing microorganism NRRL B-21627 (I) or a mutant in a medium containing L-sorbose; or culturing (I) and a second microorganism (II) able to convert D-sorbitol in a medium containing D-sorbitol. Also new are (I), a mutant (NRRL B-21630) and a method for the production of microbial strains with improved KGA production from L-sorbose which involves growing cells in the presence of a growth-inhibiting KGA derivative or analog, and selecting cells able to grow in its presence. Preferred culture conditions are pH 6-6.8 and 30 deg for 10-15 hr. (II) may be Aureobacterium sp., Bacillus sp., Brevibacterium sp., Pseudomonas sp., Proteus sp., Enterobacter sp., Citrobacter sp., Erwinia sp., Xanthomonas sp. or Flavobacterium sp., especially Corynebacterium glutamicum (ATCC 21544). A preferred culture medium contains 10% (w/v) L-sorbose, 3% corn steep liquor solids, magnesium sulfate and optionally other nutrients. For conversion of D-sorbitol to L-sorbose, (II) is preferably Gluconobacter oxydans (ATCC 621 or IFO 3293). (30pp)

29/3,AB/8 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotech Res.

0223420 DBR Accession No.: 98-05017 PATENT
Production of amino acids, particularly L-threonine - stereospecific amino acid production by transformed Escherichia coli
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ABSTRACT: A new method for producing L-threonine (I) involves: culturing Escherichia coli in a culture medium; and recovering (I) produced, where the strain contains on the chromosome at least 1 threonine (thr) operon linked with at least 1 non-native promoter and does not require any recombinant plasmids containing genes encoding thr biosynthetic

enzymes in order to produce (I). Also claimed are: producing an amino acid-producing strain of E. coli carrying no recombinant plasmids that encode 1 or more biosynthetic enzymes for the amino acid, by introducing genetic material from an amino acid producer into the chromosome of E. coli and inserting a non-native promoter into the chromosome and optionally removing regulatory hindrances to and/or nutritional requirements for amino acid biosynthesis from the chromosome; and E. coli containing at least 1 thr operon in its chromosome, operably linked with at least 1 non-native promoter, not needing any recombinant plasmids containing genes encoding (I) biosynthetic enzymes in order to produce (I); and a method for (I) production, which involves culturing a borrelidin-resistant E. coli in a medium and recovering (I) that is produced. (39pp)

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